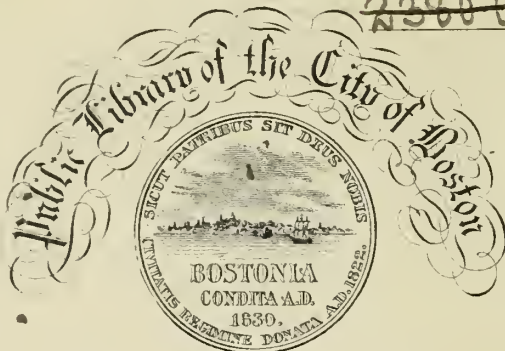


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A T L A S
OF
T H E U N I T E D S T A T E S
OF NORTH AMERICA,

CANADA, NEW BRUNSWICK, NOVA SCOTIA, NEWFOUNDLAND,
MEXICO, CENTRAL AMERICA, CUBA, AND JAMAICA.

ON A UNIFORM SCALE.

FROM THE MOST RECENT STATE DOCUMENTS, MARINE SURVEYS, AND
UNPUBLISHED MATERIALS.

WITH PLANS OF THE PRINCIPAL CITIES AND SEA-PORTS,
AND AN INTRODUCTORY ESSAY ON THE PHYSICAL GEOGRAPHY,
PRODUCTS, AND RESOURCES OF NORTH AMERICA.

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May 2, 1858

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† Yucatan ranges geographically with Central America, but since 1846 it has formed politically a part of the Mexican Confederation.

NORTH AMERICA.

INTRODUCTION.

GEOGRAPHICAL FEATURES AND STATISTICS.

LIMITS AND DIMENSIONS.—North America, including Central America and Greenland, embraces all that portion of the American Continent, with its immediately contiguous Islands, which lies north of the Isthmus of Panama. In form it is irregularly triangular, having the Atlantic Ocean for its south-eastern boundary, the Pacific Ocean for its south-western, and the Arctic Sea for its northern. Its position on the sphere is between latitude 8° north, and $82^{\circ} 34'$ north, the highest Arctic point hitherto attained. In longitude, omitting Greenland, it lies between Cape Spear, Newfoundland, $52^{\circ} 39'$ west, and the Western Headland of Russian America, $167^{\circ} 59'$ west from Greenwich.

Its length, from south-east to north-west, exceeds 6000 miles; its breadth, where widest, namely, between Newfoundland and Vancouver Island, is about 3400 miles.

Excluding Greenland, the area of the Continent is very nearly 8,000,000 square miles, or somewhat more than twice the surface of Europe, and more than one-sixth of that of all the dry land of the globe.

The entire shore line of the Continent is estimated at nearly 23,000 miles, thus distributed :—

From Hudson Strait to Florida Channel,	4,800 miles.
From Florida to Panama,	4,600 „
From Behring Strait to Panama, including the shores of the Gulf of California,	10,500 „
Arctic Coast from Behring Strait to Baffin Bay,	2,700 „

General Physical Divisions.—Taking a comprehensive survey of the larger physical features of North America, it exhibits four general or primary slopes, each sinking to one of the four seas which encircle it. The two principal inclinations of its surface are, a very broad easterly one descending towards the Atlantic, and a much narrower westerly one towards the Pacific, divided by a lofty mountain-axis, the Chippewayan Chain or Cordillera of North America, coincident throughout a large part of its course with the main water-shed, or axis of drainage of the Continent. This great mountain-chain reposes upon a broad wave of the earth's crust, which, at its greatest elevation extending from the head of the Rio Grande to the southern source of the Mackenzie River, has a mean height of nearly 7000 feet, and which gradually sinks in level from thence towards Central America and the Arctic Sea. From each base of this backbone of the Continent the surface slopes at first rapidly, and then more gently, on the one hand, towards the Atlantic; on the other, at a faster rate, towards the Pacific Ocean,—the portions of each plain at the bases of the chain possessing, in the central latitudes, an elevation above the sea of about 5000 feet. Only two important swells of the surface interrupt its general declinations towards the two opposite oceans. One of these supports the Atlantic or Appalachian Mountain-Chain; the other sustains the Pacific or Cascade Chain of California, Oregon, and British and Russian America. Neither of these Oceanic mountain-systems effectually obstructs the eastern and western drainage from the great Continental axis. The Appalachians, it is true, deflect the two greatest east-pouring streams, the St. Lawrence and the Mississippi, but they are themselves intersected to their base by several large Atlantic rivers, as the Hudson, the Delaware, and the Susquehanna, which have their sources behind the mountains on the eastern edge of the central plain. Still more strikingly the Pacific Chain, though southward, it turns the Colorado to enter the Gulf of California, and northward the Yucón, to flow into Norton Sound, yet allows free passage to the equally majestic streams, the Oregon or Columbia River, and Fraser River of British America, both of which, and several others, flow through this belt of very lofty mountains by low, transverse valleys, sunk to the level of the general slope.

The two other general slopes of the Continent, or those which descend respectively to the Arctic Sea, and the Sea or Gulf of Mexico, are parts of another great wave of the earth's surface; a broad, gentle swell of the land which crosses the Continent from the coast of Labrador obliquely towards the west south-west to the coast of the Pacific, in Northern California; passing, in its slightly curvilinear course, north of Lake Superior; then by the sources of the Missouri, or the main focus of the waters of the Continent in the Rocky Mountains; next through the high plateau of Northern Utah; and so through the Pacific Chain, where, at a great elevation, these mountains give origin to the Sacramento and Klamath Rivers of California. From this great, transverse bulge of the land traversing nearly at right angles the longer and loftier swell of the Rocky or Chippewayan Mountains, the whole Continent possesses the structure of a rudely outlined, unsymmetrical, broad pyramid, whose high but level apex gathers the waters which feed the four great diverging rivers—the Missouri, the Saskatchewan, the Columbia, and the Colorado; flowing respectively north-east, south-east, north-west, and south-west, into four independent recipients.

Regarding for the present only the influence of the transverse or east and west swell, it divides all that portion of the Continent lying east of the Chippewayan Chain, or more than three-fourths the total surface, into two great slopes,—a northern, declining to the Arctic Sea, and a southern to the sea of Mexico; and, more locally, it confers a northward and a southward slope upon the wider part of the remaining area of the Continent, or that west of those mountains. But the truest analysis of the slopes of North America is that which recognises, in connexion with its pyramidal form, not an east, west, north, and south declension of its plains, but a north-east, south-west, and, more partially, a north-west and south-east declension. All these four slopes are well indicated in the directions of the several systems of river drainage.

Looking closer at the separate divisions of the Continent, with an eye to a classification of its several great natural areas, it is seen to comprise one broad continental plain; one long, narrow, elevated plateau; three independent great mountain systems; and two long, narrow oceanic slopes.

A. THE GREAT CENTRAL PLAIN.—By far the largest of these divisions is the GREAT CENTRAL PLAIN, extending and expanding northward from the Gulf or Sea of Mexico to the Arctic Sea and Hudson Bay, and spreading westward from the Appalachians to the Rocky Mountains. This is a wide continental region of plains, gentle slopes, and elevated table-lands, watered by many great rivers, and indented by the basins of numerous expansive lakes.

It consists of two physically dissimilar districts; one, a western region of dry or semi-desert elevated steppes or table-lands, extending for many hundred miles from Texas to the Saskatchewan in a broad belt, bounded by the eastern base of the Rocky Mountains; the other, a wider, more irregular, eastern tract of less average elevation, consisting of vast rolling plains, studded with many hills, but almost no mountains, and for the most part copiously watered. It is divisible into four extensive river systems, or basins of river and lacustrine drainage, separated by low, nearly level, water-sheds.

I. THE WESTERN STEPPES.—The general eastward slope from the base of the Rocky Mountains, especially in the latitudes south of the Upper Missouri, descends not so much by one even inclined plain, as by a succession of terraces, which are especially prominent south of the River Arkansas. These terraces are not level, but conform to the general inclination; nor has the district embracing them any well-defined line of escarpment separating it from the lower gentler slope with which the land subsides to the level of the Mississippi, and the Upper St. Lawrence Lakes. Nevertheless, there is a marked change in the physiognomy of the whole eastern slope, about half-way between the Mississippi and the Rocky Mountains. There the rise of the surface becomes more rapid; the grassy prairies giving place to sterile and arid table-lands. Adopting a contour line of level about 2000 feet above the sea, as approximately coincident with this more abrupt change of slope, climate, and general aspect, we may define the district included between this line and the foot of the mountains, as a wide, elevated zone, ranging from the 28th to the 60th degree of latitude. Its eastern limit, from Texas to the Nebraska River, lies a little west of the meridian of 99° west, and deflecting thence somewhat westward, it crosses the Missouri near the meridian of 102°, or somewhere about Fort Berthold. North of the Missouri it swerves rapidly to the west, and approaches the base of the Rocky Mountains about the upper waters of the Athabaska River. The zone thus defined has a breadth south of the Missouri of nearly 350 miles, and a mean level above the sea of some 3500 feet, rising by slopes and terraces to an elevation of 5000 feet, or even more, at the immediate foot of the mountains. To the north-west of the level water-shed insulating the streams of the Upper Missouri from the south branch of the Saskatchewan, the high-terraced zone rapidly declines in level, and contracts in breadth, growing, despite its progress northward, less sterile, and becoming even fertile; until, discarding the semi-desert character for that of the grassy and cultivable prairie, it forms part of the well-watered, lower, broad region lying to the east and north-eastward. South of the Nebraska, particularly near the Arkansas River and the Rio Pecos, the plateau is divided by a somewhat well-defined slope—amounting even to an abrupt escarpment in the region of the Red River and the Rio Brazos—into two chief tables or terraces. The upper of these plateaux, called the Staked Plains, or El Llano Estacado, is about 1000 feet higher than the table east of it: its general height being about 3500 feet; it is a verdureless and almost rainless desert. Northward the upper belt, in prolongation of the Staked Plains, exhibits the same characters, but mitigated, as we cross the Arkansas, though as far as latitude 45°, passing the north branch of the Nebraska, there are vast tracts of parched desert east of the Rocky Mountains, and the Yellow-Stone River; some of which, of singularly broken surface, are known under the name of the Bad Lands, or Mauvaises Terres. North of the Missouri it begins to lose these features.

The lower terrace resembles the upper in its flat monotonous surface, its treeless wastes, and arid summer climate, but it is rather more grassy, and its southern streams are better fringed with trees and verdure. All the rivers, from the Pecos to the Arkansas, issue from the upper table-land to the lower, through deep narrow sluices (cañons), between precipices of enormous height. For more than 400 miles, from the Brazos to the Arkansas, the lower treeless plain is fringed by a remarkable belt of woodland, from five to twenty-five miles wide, which is called the “Cross Timbers.” This strip of forest forms the western boundary of the fertile still lower and better-watered plain of Texas, a region of verdant prairies, dotted with natural parks, and clumps of live oaks and other noble trees.

II. GREAT EASTERN AND NORTHERN PLAIN.—This vast tract, embraced in width between the north-west base of the Appalachian Mountains, and the eastern border of the elevated western steppes, and north of them the base of the Rocky Mountains, is a wide, well-watered, gently-rolling plain; irrigated with innumerable streams, the tributaries of many majestic rivers and huge lakes, some of which latter are almost of the dimensions of inland seas. Its surface nowhere rises higher than 1700 feet above the sea, and none of its great water-sheds higher than about 1500 feet, while by far the larger portion of it is included between the elevations of 400 and 800 feet above the ocean. This diversified region comprises nearly half the area of the continent, and more than five-sixths of its great central plain or valley. It is subdivisible into four great river basins: an Arctic basin, the basin of Hudson Bay, the basin of the St. Lawrence, and the basin of the Mississippi. These, in their limits and physical aspects, will be sketched presently, in connexion with the general river drainage of the entire continent. The region is divisible upon another basis than that of its water-sheds, into an Arctic zone, a forest zone, and a zone of open plains or prairies, which will also be briefly touched upon; and like the whole continent, it contains several distinctly characterized belts of climate, susceptible of definition.

B. THE APPALACHIAN MOUNTAIN ZONE.—This Atlantic mountain-range embraces the whole belt of mountain ridges extending from the Gulf of St. Lawrence at Gaspé, to Georgia and Northern Alabama. It consists of two divisions—a north-eastern, ranging from Gaspé to the valley of the Hudson; and a south-western, thence to the interior of Alabama: the total length of the chain is about 1500 miles, while its breadth varies from 150 to 200 miles. In the chief divisions of its length it is a wide complex belt of many parallel ridges, whose crests nowhere ascend much beyond 4000 feet above the sea; the base of the chain, where highest, being about 1800 feet above the sea level. From Alabama to the Hudson, the Appalachian chain is the water-shed between the Atlantic rivers and those of the Ohio and Lake Ontario; and from the Hudson to the Gulf of St. Lawrence it separates the drainage of those flowing to the Atlantic from the shorter streams entering the St. Lawrence. The Hudson valley does not entirely separate this long, nearly continuous mountain system. A depression of the continent to a depth of only 300 feet, would let the ocean through from the Gulf of St. Lawrence to the Bay of New York, and interpose a strait nearly as broad as that between England and the European continent, between the mainland of North America and the even now half-insulated district of New England, New Brunswick, and Nova Scotia.

The *North-eastern* section of the Appalachians contains as its principal chain the Green Mountains, a long belt of parallel and swelling ridges, commencing in the Nôtre Dame range south of the St. Lawrence, in Lower Canada, and terminating at the Schuylkill River in Pennsylvania. These mountains at the Hudson, under the name of the Highlands, are cut to their base by that tidal river. In Vermont their rounded summits are 4000 feet high, but on the Hudson they nowhere exceed 1600 feet. The White Mountains of New Hampshire, and the Adirondac group in the north-east corner of New York, are lofty outlying masses, subsidiary to the Appalachians. They consist chiefly of the crystalline rocks. Their highest peaks exceed 5000 feet; and Mount Washington, next to the loftiest summit east of the Rocky Mountains, is 6428 feet above the sea level.

South-western Appalachians.—From the Hudson and Mohawk to middle Alabama, extends the other great division of the Appalachian chain, marked by an extraordinary parallelism, length, narrowness, steepness, and evenness of its numerous ridges. Its south-eastern belt, the most undulating and picturesque, is the Blue Ridge of Virginia, and the Smoky or Unaka Mountain range of Carolina, Georgia, and Tennessee; it is nearly identical in geological structure with the Green Mountains, and resembles them in contour and scenery. Its highest crests, which are in North Carolina and Tennessee, reach to 4000 and 5000 feet above the sea; and one knob, the Black Mountain of Carolina, attains the height of 6476 feet, the greatest elevation known anywhere in the eastern half of the continent.

To the north-west of the Blue Ridge, and separated from it by a long continuous plain called the Great Appalachian Valley, runs the parallel range of the middle Appalachian belt, traceable from the St. Lawrence to Alabama. This central zone of mountains consists of long narrow level ridges, divided by narrow longitudinal valleys, and cut to their bases by sharp deep ravines permitting the passage of the rivers. These ridges, caused by excessive erosion of the parallel waves of the strata of which the central Appalachians consist, are linked into groups of several parallel crests, some of them remarkably straight for great distances, others gently curving. In many instances two narrow mountain crests unite at the two extremities to enclose a deep trough-shaped valley; some of these valleys, with their mountain borders, having a remarkable resemblance to a long narrow canoe or skiff. One class have a synclinal structure, the highest strata being in the bed or centre of the valley, and the hard lower rocks forming the enclosing parallel mountain crests. The other class are anticlinal in their form, a powerful erosive action of waters having carved them out by cutting through the crests of the original crust-waves, and scooping down to the softer lower strata. In some portions of this middle belt the long narrow ridges unite in wider mountain table-lands of the general height of the chain.

The north-western belt of the Appalachians is a long and comparatively narrow high table-land, called the Alleghany Mountain in Pennsylvania, the Sewell Mountain in Virginia, and the Cumberland Mountain in Tennessee. Almost the whole way continuously from North-eastern Pennsylvania to Northern Alabama, it presents a high escarped slope, facing south-eastward toward the middle chain.

A longitudinal survey of the Appalachian chain shows much undulation in its direction, and discovers eleven distinct sections as respects its trend. Six of these are straight, three of them convex towards the north-west, and two of them convex towards the south-east.

C. THE ROCKY MOUNTAINS, OR CHIPPEWAYAN CHAIN.—This very elevated mountain axis, or main water-shed of the continent, consists generally of two, but in some districts of three, principal ranges, each composed of many high mountain crests, deep valleys, and elevated table-lands. The great component ranges are approximately parallel, but they are variously linked and insculcated by transverse ridges. Their crest lines undulate on a stupendous scale, and many of their summits are sharply notched and serrated like the Alps. The main eastern range rises like a huge rampart above the great table-land at its base, presenting a deeply gashed flank, and vast mountain buttresses towards the plain. Longitudinally the whole chain consists of many sections broken by deep passes, and by the cessation of the leading ridges, which, in many instances, do not join, but lap past each other. This recently ascertained feature presents unexpected facilities for the construction of railways, and other avenues of communication across the continent. In Northern Mexico the eastern range is the Cordillera of Cohahuela and Potosi, the Guadalupe Mountains of New Mexico being only an outlying chain of ridges; and the western range is the Sierra Madre. Opposite the sources of the Arkansas, the eastern belt is the Sierra de Sawatch, and White or Wet Mountain; and the western the La Plata and San Juan Mountains. The noble valley of the Rio Grande del Norte is here embraced between the two ranges. From the Arkansas to the north fork of the Platte, the chain is more complex and triple; its eastern range contains some of the loftiest summits of the Rocky Mountains: such as the Medicine Bow Mountains, the Spanish Peaks, Pike's, Long's, and Laramie's Peaks, rising to 10,000 and 12,000 feet above the sea. North of the Platte, rise the Wind River Mountains, the loftiest division of the chain. Here Fremont's Peak has an elevation of 13,570 feet. This high mountain axis is the focal water-shed of the continent, for it parts the head fountains of the Missouri flowing to the Atlantic, from those of the Columbia and Rio Colorado, descending westward to the Pacific.

Branching southward from the Rocky Mountains, near the Wind River range, is the long and lofty chain called the Wahsatch. It is the eastern boundary of the Great Utah Desert, and the western barrier of the basin of the Rio Colorado, the Rocky Mountains being the eastern. Northward of the Wind River chain, the eastern or main axis of the Rocky Mountains is exceedingly high, where it divides the middle and northern streams of the Columbia, from the sources of the Missouri and Saskatchewan. Near the head of the latter great river, Mount Hooker towers to the height of 15,700 feet above the sea; and a little further north, Mount Brown, the feeder of the river Athabaska, reaches the yet greater altitude of 15,990 feet. From this culminating district the chain gradually declines northward to the Arctic Ocean. Beyond lat. 55° the main eastern crest ceases to be the water-shed between the Pacific and Hudson Bay, or the Arctic Ocean.

North-west of the Wind River chain, the Salmon River Mountains spur off towards the west-north-west, from the main chain or water-shed of the continent, extending from opposite the southern sources of the Missouri, to the Snake River. Further north, the Bitter Root, or Cœur d'Alène Mountains, branch off towards the north-north-west to run parallel with Clark's Fork of the Columbia.

The Chippewayan or Primary Water-shed.—It has been stated, that the western portion of the continent ascends in both directions towards the Rocky Mountains, in form of a broad, elevated wave, sustaining on its high flat crest the main water-shed of the continent; this great swell of the surface, maintaining a part of its height under the wide lofty plateau of the western desert zone, sinks much more rapidly westward towards the Pacific, than eastward towards the Mississippi; therefore, in several districts, the crest line of the waters is at the western base, or even far beyond the backbone chain of the continent. Traced longitudinally, this line of separation of the drainage, so interesting, from its containing the real passes insulating the eastern from the western slopes of the continent, is approximately coincident with the main eastern crest of the chain, from the southern end of the Wind River range at the Great South Pass, in lat. 42° 30', northward to the sources of the Athabaska near Mount Brown. Between the Great South Pass and the head of the Arkansas, it undulates between the eastern and the western ridges, but southward of that river it follows the western chain, which to the west of the Rio Grande, becomes a broad high table-land, stretching thence to Mexico, under the name of the Sierra Madre. Northward of the Athabaska, the water-shed leaves the Rocky Mountains proper, swerving westward through the western plateau, between the sources of the Peace, the Turnagain, and the Peel rivers of the great Mackenzie, the fountains of the Frazer River, and the Yukon or Kwitchehak of the Pacific Ocean. This somewhat undulating line winds between the head streams of the two interlocking systems of rivers, which drain the two opposite slopes of the entire western half of the continent.

It also undulates when regarded in profile. Traced northward, it declines from a high level in Mexico, to near latitude 32°, the lowest level which it reaches. From recent surveys, this is between the waters of the Rio Grande, and those of the San Pedro of the Rio Gila. Here its height above the sea is about 5200 feet. Ascending, the water-shed attains its maximum

elevation about the thirty-eighth parallel, opposite the head of the Rio Grande, where it reaches the great height of 10,000 feet, thence northward it declines, sinking at the South Pass near latitude $42^{\circ} 30'$ to about 7490 feet, and still further in latitude 47° at Cadotte's Pass to 6044 feet. Beyond this point it ascends again, passing the northern head tributaries of the Upper Missouri, where, at the Marias Pass, in latitude $48^{\circ} 30'$, its elevation exceeds 8500 feet. The dividing line now gradually declines to the feeders of the Saskatchewan, beyond which, the Athabaska portage is said to be 7324 feet above the sea. Still further north, it once more rises, and then slowly subsides towards the Arctic Ocean, though with that undulation of its crest, which is characteristic of all very extensive water-sheds.

D. THE GREAT WESTERN DESERT PLATEAU.—Between the Rocky Mountains on the east, and the Pacific Alps, or Cascade Chain, and Sierra Nevada on the west, there stretches from the Gulf of California to the Arctic Ocean, an elevated desert zone of great breadth and height, especially in its central section, between latitudes 35° and 45° , where its mean level above the sea is between 4000 and 5000 feet. It consists, north of the Gulf of California, of three principal regions,—the Central Desert Plateau, now indicated; a semi-desert area, south-east and south of this, the basin of the Rio Colorado, divided from it by the Wahsatch Mountains; and a northern region, that of the Columbia and Frazer Rivers, sterile and rugged in its southern portion, but more fertile in its northern, separated from the central by the mountain table-land south of the Columbia.

The Central Plateau, or Great Utah Desert, is an almost rainless region, parched by dry winds. The evaporation balancing the rain-fall, none of its scanty drainage passes to the sea, but each attenuated stream ends in a closed lake, the water of which is more or less salt. It is a vast elevated arid waste, containing wide plains incrustated with salt, a soil generally more or less saline, and large tracts of light volcanic scoriæ and ashes. Through its centre there runs, southward, a broad belt of straight mountain ridges, the Humboldt Mountains, composed in part of crystalline rocks, in part of carboniferous limestone, and other palæozoic strata. The chief stream is the Humboldt River, which, flowing west, dies away in a salt morass, before it reaches the foot of the Sierra Nevada. There are twelve or fifteen salt lakes of considerable magnitude in this high insulated basin. The largest of these is the Great Mormon, or Utah Salt Lake, the waters of which are impregnated almost to saturation, containing 20 per cent. of common salt, and 2 per cent. of other salts. Its length is 75 miles, and mean breadth about 30 miles.

The Southern Desert Basin, or that of the Rio Colorado, lying between the Rocky Mountains and the Wahsatch and Californian Mountains, is, like the Utah Desert, a succession of arid table-lands and plains, intersected by rugged mountains. Its north-eastern portion is better fed with rain than its western; those tracts most under the lee of the intercepting barrier of the Pacific Mountains being more desiccated than the districts further removed. The Pacific Mountains are also less elevated in this latitude than further north, opposite the Central Desert. This Southern or Colorado Desert slopes gently southward to the ocean level at the head of the Gulf of California, north of which there is an arid tract of the surface, which is actually lower than the surface of the sea, having, it is believed, a depression in its centre of 300 feet,—a region of continental depression, from which the dry winds have lapped up the remnant waters of the Gulf of California, and annually drink away every trace of the back waters of the Rio Colorado, which temporarily flood it at the season of its rise from the rains in the mountains. In some localities along the western edge of the Colorado Desert, the rounded water-worn pebbles which strew the surface are beautifully polished, from the action of a sharp dry sand driven furiously over the gravelly pavement by the prevailing high westerly winds; and in several of the gorges or passes through the Sierra Nevada, in the same neighbourhood, the fixed rocks of the mountains are themselves smoothed and striated by the same agency.

Only a low barrier of hills, declining south-westward, from the Wahsatch Chain, divides this Desert of the Colorado from that of the Plateau of Utah. The true configuration of the whole vast desert tract, from the Rio Gila on the south, to the Snake River or south branch of the Columbia, on the north, is that of an elevated valley between the Rocky Mountains and Sierra Madre on the east, and the Pacific Chain on the west. In its position it is like some of the high table-lands of the Andes.

E. THE PACIFIC MOUNTAIN CHAIN.—The third, or western belt, of the great elevated mountain zone of Western North America, is the oceanic chain which runs adjacent to the Pacific, from Russian America to the peninsula of Lower California. The northern section of this chain traversing Russian and British America, is sometimes called the Pacific Alps; the middle section, from Frazer River to the Klamath, the Cascade Range; and the southern section, lapping past part of the southern end of the latter, and extending from the Columbia River to about lat. 35° , and becoming extinct in the San Bernardino country, is called the Sierra Nevada. The central ridge of the peninsula of Lower California, a part of the same great Pacific chain, is the southward prolongation of a parallel mountain axis, which, in Middle and Northern California, ranges parallel to the Sierra Nevada, west of it, and close to the Pacific coast, and is there known as the Coast Mountains. Low in its southern sections, the great Pacific mountain chain is in Middle California, Oregon, and Russian America, broad, complex, and very lofty, its main central crest containing nearly the highest summits upon the continent. The Sierra Nevada, a great water-shed insulating the high rainless plateau of Utah from the basin of California and from the sea, carries a very elevated crest, many parts of which reach a height of 10,000 feet: but it has few insulated peaks towering above this line. The Cascade range, on the contrary, wholly different in its geological structure, being largely volcanic, is in many places cleft nearly to the sea level, and yet bears some of the most colossal conical summits to be met with on the globe. The three great volcanic peaks, Mount Jefferson, Mount Hood, and Mount St. Helen's, tower in great masses to the height of 15,500 feet, and even above this. Mount Fairweather 14,782 feet high, and Mount St. Elias 17,850 feet, are both volcanoes, believed to be occasionally active; while Mount St. Helen's and Mount Regnier, though rather torpid, are known to be occasionally in eruption. About latitude 35° , the Sierra Nevada and the coast range diverge northward, to enclose between them the gold-producing valley of California.

The coast range proper of California, which scarcely anywhere exceeds in elevation 3000 feet, terminates southward north-east of Santa Barbara, and a distant chain of low mountains commences at the coast near Point Conception, and extends east-south-east to cross the Colorado and Gila Rivers near their junction. This is called the San Bernardino range. The peninsular chain of Lower California starts off from this oblique one near the San Geronimo Pass, and ranges south-south-east to Cape San Lucas.

F. THE PACIFIC OR WESTERN SLOPE.—Between the great Pacific chain and the western shore of the continent there extends the very long and comparatively narrow Pacific slope, everywhere declining, more or less steeply, to the sea. Slender in the Californian peninsula, it widens north of lat. 34° to admit the coast mountains and the gold-bearing valley of Upper California, and here presents three subordinate belts, covering a breadth of about 100 miles, which size it maintains to Vancouver Island, and beyond it. From the valley of the Sacramento, northward, its surface is more rugged, until approaching the Columbia, it admits between the Cascade chain and the coast range, the open and fertile valley of the Willamette River.

G. THE ATLANTIC OR EASTERN SLOPE.—This long and slender zone stretches from the Gulf of St. Lawrence to the Gulf of Mexico, and descends with a gentle lateral slope from the base of the Appalachians to the Atlantic coast. Its several

subordinate belts differ both in physical features and geological structure. One subdivision, ranging from the Gulf of St. Lawrence to the Hudson, through New Brunswick and New England, has a hilly surface, and many rivers, which meet the tidal level far inland from the sea. It contains short chains of rounded hills, some of them mountains in size, and it is spotted with a multitude of clear lakes and ponds, and is throughout admirably watered. This region forms one general slope to the sea, not being fringed on its ocean border, as the corresponding zone further south is, by a true tide-water plain.

The south-western section of the Atlantic slope, expanding south-westward from the Hudson, attains in Virginia a width of at least 200 miles, under which it continues to the southern end of the Appalachians. It includes two parallel belts, quite distinct in their geology and scenery: that nearest the mountains is a true slope, descending from a height of several hundred feet to the level of the tide; that bordering the sea is a low monotonous and very level plain. Between the slope and the plain runs a well-defined line of demarcation, indicated in a sudden change in the topography, and in the abrupt transition in all the streams, from rapids to the ebb and flow of the tide. Upon this physical boundary are seated all the chief cities of the Atlantic sea-board, from Trenton in New Jersey, to Halifax in North Carolina. This line marks, indeed, an ancient sea-coast of the earlier continent in the times anterior to the elevation of the horizontal tertiary deposits.

The upper, or Appalachian division of the Atlantic slope, traced south-westward, ascends from the level of the tide at the Hudson, to its maximum height of 1000 feet near the sources of the Roanoke, and declines again beyond the Catawba, to a more moderate level in middle Alabama. From Long Island Sound to the Potomac its surface is varied and pleasing, and its soil very fertile.

It possesses many broad, fruitful, and salubrious valleys; is singularly well watered by clear running brooks, but is nowhere marshy, and is altogether the garden spot of the Atlantic border of the continent.

From the Potomac, south-westward, the features of this slope are more monotonous, the soil less fertile, consisting of light sands and meagre clays, produced from subjacent talcose and chloritic schists, and other altered azoic rocks. The climate is less temperate, being liable to great heat in summer, and to heavy rains, which wash its pulverulent soil. These conditions of soil and climate impart excessive turbidness to its swiftly flowing streams, causing indirectly extensive sand bars and shoals at the mouths of its rivers and estuaries, tending to block their navigation. Immediately at the base of the Blue Ridge, in Virginia and North Carolina, this region contains a highly fertile and picturesque tract.

The Atlantic Plain, or sea-board belt of the Atlantic slope, nowhere rises above 100 feet from the ocean level. From Long Island to North Carolina, though intersected by many tidal creeks, it is not marshy, except near the ocean, and bordering the estuaries of the Delaware and Chesapeake; but farther to the south-west, through North and South Carolina, Georgia, and Florida, its seaward half is excessively swampy and much overflowed.

RIVER SYSTEMS.—North America contains properly eight independent River Systems, or separate Hydrographic Basins. Commencing with the more northern, these are: 1st, The Arctic System; 2d, The Hudson Bay System; 3d, The St. Lawrence System; 4th, The Atlantic System; 5th, The Gulf of Mexico, or Mississippi System; 6th, The Northern Pacific System; 7th, The Continental System, or Landlocked Basin of Utah; and 8th, The Southern Pacific System, or that of the Gulf of California.

1st, The Arctic River-System discharges northward from the sources of the Mackenzie into the Arctic Sea, between Behring Strait and the Gulf of Boothia. It is bounded—west, by the water-shed of the Great Plateau, west of the Rocky Mountains; south and east, by the low, winding, imperfect water-shed, separating the Athabaska and other southern streams of the Mackenzie from the Saskatchewan and Churchill Rivers of Hudson Bay; and northward, by the Arctic Coast. Its south-eastern border, or water-shed, commences at the Rocky Mountains, opposite the northern sources of the Columbia; passes between the great rivers named, by Methy portage and Wollaston Lake, then between the Great Fish River and Chesterfield Inlet, and through the centre of Melville Peninsula, where it terminates at the Hecla and Fury Strait, which connects Boothia Gulf of the Arctic Sea with the Hudson Strait waters of the Atlantic.

This wide region of northward drainage includes the Great Mackenzie River and its tributary streams and lakes, which, it is computed, water an area of about 442,000 square miles. It contains also the Coppermine and the Great Fish Rivers. The total length of Mackenzie River, from the sources of the Athabaska or Elk River, its most southern feeder, is not less than 1600 miles. This stream rises near Mount Brown, at the great elevation, it is said, of 15,000 feet. Here the four largest rivers of the Continent, the Missouri, Saskatchewan, Columbia, and Mackenzie, have their common nucleus, or focal water-shed, near latitude 55° north. The head fountains of the Mackenzie and the Columbia being only about two hundred yards apart, and those of the Columbia and the Saskatchewan approximating to fourteen paces. The Peace River, or more northern tributary, rises on the west side of the main crest of the Rocky Mountains, within 300 yards of Frazer River, which flows to the Pacific. The Athabaska and Peace Rivers unite below Lake Athabaska, which receives the north-flowing waters of Lake Wollaston, a third upper tributary of the Mackenzie. Lake Wollaston is, however, itself a part of the water-shed between the Mackenzie and the Churchill, for it sends a south-flowing stream into the Missinipi, the upper feeder of that river; thus anastomosing the drainage of the Arctic and the Hudson Bay River Systems. The three blended streams below Lake Athabaska form the Slave River which flows into Great Slave Lake, from the western end or outlet of which, the main trunk stream bears the name of Mackenzie to the Arctic sea. It receives in its flow the tributary rivers Lizard and Peel, from behind the Rocky Mountains; and from the east the waters of Great Bear Lake, lying near the Arctic Circle. The general elevation of the water-shed in the vicinity of Methy Lake on the main canoe route, from Lake Winnipeg to the Mackenzie, is estimated at a little less than 1700 feet * above the sea, assumed to be the mean level of the district, from which it slowly declines north-eastward with the slope of the continent.

2d, Hudson Bay, or Baffin Bay System.—This vast river basin, draining into Hudson Bay and its outlets, stretches from the sources of the Saskatchewan in the Rocky Mountains, and embraces a coast front on the Sea, from the extremity of Melville Peninsula to the eastern point of Labrador. Bounded, north-west, by the low water-sheds separating it from the Arctic Basin, and south, by a still more tortuous one, dividing it in the west from the waters of the Missouri, and east from those of the St. Lawrence, it gathers a wide converging drainage eastward, north-eastward, northward, and also westward, into the somewhat central reception of Hudson Bay. Its southern water-shed which, from the Rocky Mountains to East Canada, meanders between the parallels of 46° and 50°, declines from an elevation of about 3000 feet very gradually with the slope of the continent to Labrador, maintaining, opposite the St. Lawrence and its lakes, an average elevation above those waters of not more than 700 feet. It is only west of longitude 102° that this low axis of drainage ascends to the height of 2000 feet above the sea.

The chief rivers which drain the north-eastern slope of the continent, and fall into Hudson Bay, are, the Chesterfield, the

* See Arctic Searching Expedition, by Sir John Richardson.

Missinipi or Churchill, the Saskatchewan or Nelson, the Severn, and the Albany, all from the west; and from the south and east, the Abbitibbe, Arrikanaw, Rupert, East Main, and Big and Little Whale Rivers. Of these by far the grandest are the Churchill and the Saskatchewan.

The Churchill rises on the slope far east of the Rocky Mountains, under the name of the Beaver River; flows north-eastward, receives the waters of Methy and La Crosse Lakes, takes thence the name of Missinipi, is again augmented by the waters of Deer Lake, the southern outflow of Wollaston Lake, and bears thence the name of Churchill River to its discharge in Hudson Bay. The water-shed separating this river basin from the Saskatchewan is so flat, that at the Frog Portage it interposes only a few feet of elevation, so that in times of flood it is overflowed, and the waters run both ways. Wollaston Lake, too, as already intimated, discharges into both basins.

The Saskatchewan, or Nelson River, by far the largest stream entering Hudson Bay, rises in the Rocky Mountains, where its northern branch is fed by Mount Hooker, one of the loftiest mountains on the continent. Joined by the southern branch about 500 miles from its source, the united river flows into Lake Winnipeg, entering it towards its north-western end, and issuing thence, under the name of Nelson River it keeps north-eastward to Hudson Bay. Lake Winnipeg, the main southern tributary, is 250 miles in length, and is itself fed from sundry lateral lakes. Its main feeder, however, is the Red River of the North, which heads against the upper Mississippi and its western branch, the Minnesota or St. Peter's; the Red River receiving the Assiniboine from the west. Another drainage also enters Lake Winnipeg, flowing through Rainy Lake and the Lake of the Woods, interlocking in its course with the waters of Lake Superior. Thus the great basin of the Saskatchewan is separated from the basins of the Mississippi and the St. Lawrence, on its south, by water-sheds or portages nearly as depressed as that which on its north insulates it from the basin of the Churchill.

The Severn River falls into Hudson Bay near latitude 56°, flowing north-eastward, from a source near Lake Winnipeg, if indeed it does not get a portion of its waters from that basin.

The Albany River has its source in Lake St. Joseph, in latitude 51°, and flows eastward nearly 400 miles, to James' Bay, of Hudson Sea.

Of the southern and eastern tributaries of Hudson Bay very little is specifically known to geographers.

A low plateau crosses this broad basin from near Lake Superior, towards the north-north-west, which checks, but does not arrest the north-eastward drainage of the rivers, and converts them into an intricate network of lakes, through a belt of 200 miles in breadth. Throughout this zone, which extends across the Arctic river-basin also, the water surface is enormous,—exceeding, it is thought, the area of the dry land. This part of the Hudson Bay river-basin is a region of innumerable tortuous streams and insculcating lakes and swamps, lying for the most part north and south, or transverse to the general eastern drainage. It is a cold, inhospitable, and snowy district; its intractable crystalline rocks, deeply covered with sterile drift, and its summer climate humid and cold, and decidedly more Arctic than the western half of the so-called Arctic Basin itself. The average elevation of this swampy zone seems not to exceed 700 feet above the sea.

3d, The St. Lawrence Basin or River System.—This remarkable Lake-River System extends eastward and then north-eastward from the Missabay heights, a little west of Lake Superior, to the Gulf of St. Lawrence. It is embraced between the main transverse water-shed, or east and west swell of the surface from Missabay Heights to Labrador, on the one side, and on the other, the lower, more deeply-trenched water-shed, forking away from this at the sources of the Mississippi, and winding thence closely by the south shores of Lakes Superior, Michigan, and Erie, until, falling into the Appalachian watershed, through the centre of New York and the Green Mountains, it coincides with this latter in its north-east range to Gaspé, on the Gulf of St. Lawrence.

Unlike the river-basins of the Arctic Sea, the Hudson Bay and the Missouri-Mississippi, which lie in part within the great Prairie region of the continent, it is confined altogether to the eastern Forest Zone. It is a curious feature that its western rim is not more than fifty miles west of the head of Lake Superior, where its water-shed is in some places so flat, that in states of flood a canoe passage is practicable from its head stream, the St. Louis River, into feeders of the upper Mississippi. This feature of inosculcation of the waters, discernible to some extent in all the water-sheds of the eastern side of the continent, is especially remarkable in that which separates the Laurentian Basin from the eastern tributaries of the upper Mississippi. Thus, in wet seasons, so depressed is the ground between Fox River of Lake Michigan and the Wisconsin River of the Mississippi, that a barge may float from one stream to the other; and there is, indeed, a permanent channel from Lake Michigan into the Illinois river, through a low swamp a short distance from the lake south-west of Chicago. This summit, if it can be called such, is only 600 feet above the level of the sea. From this lowest depression it gradually ascends eastward, being 745 feet between the Wabash and Maumee in Indiana; 993 feet between the Scioto and Sandusky; 990 feet between the Muskingum and Cuyahoga, in Ohio; 1095 feet between Conneaut Creek and the Harbour of Erie, in Pennsylvania; 1320 feet between Bear Lake of the Connewango and Lake Erie in New York; and finally, 1678 feet between the sources of the Genesee of Lake Ontario, and those of the Alleghany River.* Chautauque Lake, the feeder of the Ohio, 2300 miles from the mouth of the Mississippi, lies within seven miles of the side of Lake Erie, at an elevation of 737 feet above its level, the summit between them being only sixty feet higher, which excavated, would make Lake Chautauque a joint feeder of both great River Basins, with a series of foaming rapids and cataracts falling at the rate of 100 feet per mile. An immense portion of this basin, about 80,000 square miles, is covered with fresh water,—Lake Superior, their greatest expanse, being about 400 miles long, 3200 square miles in area, 900 feet deep, and 627 feet above the level of the sea; while Lake Ontario, the lowest enlargement of the Laurentian Lake-River, is 180 miles long, 500 feet deep, and 230 feet above the ocean. The whole basin of its five great lakes is simply a wide level plateau, sinking slowly eastward by successive terraces, supporting the lakes and intermediate slopes producing the connecting river sections of the general St. Lawrence. The anomaly of the close proximity of the lake-basin to waters flowing to the Gulf of Mexico, vanishes, when we recognise the river character of these lakes, and discern the half-way position of their southern water-shed, between the mouth of the Mississippi and the Gulf of St. Lawrence.

4th, Atlantic System, or Drainage of the Atlantic Slope.—This belt of river-drainage, which from its structure is not entitled to the name of a basin, but to that of a slope, has a general discharge south-eastward from the Appalachian watershed into the Atlantic Ocean. It extends from the Promontory of Gaspé, on the St. Lawrence Gulf, to the end of the Peninsula of Florida. Strictly it has but one water-shed. Tracing this south-westward from its commencement at Gaspé, we shall find it to follow a very meandering line, approximately parallel with the south river shore of the river St. Lawrence, nearly to the head

* See Physical Geography of Mississippi, by Charles Ellet, Engineer.—*Smithsonian Contributions*.

waters of the Woolastook or St. John, through the Nôtre Dame and Shickshock Mountains, sending short streams northward to the St. Lawrence, longer ones into the Bay of Chaleurs, and large rivers southward into the Atlantic. Between the sources of the Woolastook and the Chaudière, the crest line deflects to run nearly south to the head of the latter river, south of Lake Megantic, there it turns west, then south-west, round the head waters of the Connecticut, to become the water-shed of Vermont, where it enters the Green Mountains, and follows this chain to a point nearly opposite the south end or head of Lake George, running westward to the head of which it doubles suddenly northward, then turns westward around the streams and lakes at the sources of the Hudson, in the Adirondack Mountains, passing which it turns once more to the south-west, to separate West Canada Creek of the Mohawk from the Black River of Lake Ontario, and further on the Mohawk itself from Lake Oneida. Thence it ranges south-westward in a very serpentine course across New York into Pennsylvania, winding round the heads of Cayuga, Seneca, and Canandaigua Lakes, and between the sources of the Susquehanna a river of the Atlantic, and the Genesee flowing northward into the Ontario and the Alleghany, descending south-westward by the Ohio to the Gulf of Mexico. Passing this summit, which is a local water-shed of streams entering into the Atlantic, the St. Lawrence, and the Gulf of Mexico, and the point where the crest line of the waters forks, the south rim of the Lawrentian lake-basin, branching off westward between the Genesee and Alleghany Rivers toward Lake Erie, the Atlantic or Appalachian water-shed keeping its course south-westward; this latter runs forward now exclusively between the waters of the west branch of Susquehanna and the eastern tributaries of the Alleghany River, deflecting southward to the sources of the Juniata and the Patomac, where it takes the main east escarpment of the Alleghany Mountains or Appalachian table-land. Here, near the western confines of Maryland, the water-shed trending a little more westward, takes through Virginia, a winding course between the sources of the James and Roanoke Rivers of the Atlantic slope, and the Great Kanawha River, running towards the Ohio, following no one main mountain crest, but ranging obliquely across the whole Appalachian chain, until at the sources of the Kanawha it enters the Blue Ridge, and insulates the western waters from the head fountains of the Roanoke, Pedee, and Santee Rivers, flowing to the Atlantic. Having now reached the most eastern ridge of the Appalachians, it pursues the main crest of this to the northern boundary of Georgia, and across the northern corner of that state; in all this part of its course separating the streams of the Atlantic slope from those which feed the Tennessee River, another tributary of the Ohio. Near the north-eastern corner of Georgia, opposite the sources of the Savannah River, the Atlantic water-shed, taking the southern spurs of the Blue Ridge, finally leaves the Appalachians altogether, and after passing between the head waters of the Altamaha an Atlantic river, and the Chattahoochee, a stream flowing to the Gulf of Mexico, it turns from its previous south-west course to take a direction south-south-east, between the Ocmulgee and the Flint Rivers, to the Okefinokee Swamp on the confines of Florida, whence it ranges through the middle of this flat state, as a very depressed and swampy water-shed, winding between innumerable lakes and sluggish streams to the extremity of the peninsula. Throughout this last southern reach, it separates the Atlantic waters from streams flowing directly into the Mexican Gulf, and not into the Mississippi, just as, at its north-eastern extremity, it divides the Atlantic rivers from streams passing directly to the St. Lawrence, and not to its lake-basin.

The elevation above the sea of this remarkable water-shed is unequal in different parts of its course. From Gaspé to the head of the Connecticut, it generally amounts to 1700, or even 2000 feet; and it attains a yet greater height than this in crossing through Vermont, but it descends to a strikingly low level in the valley embracing Lake Champlain and the river Hudson, where the summit level of the Champlain Canal is no higher than 147 feet above the ocean. It is very high around the sources of the Hudson, but falls again to a low level, where it passes the heads of the Mohawk and of the Lakes of New York. Thence it again ascends, until in Northern Pennsylvania, at the sources of the Sinnemahoning, it is about 1900 feet above tide, and 2300 feet at the sources of the Juniata. At the summit of the Chesapeake and Ohio Canal, near the south line of Pennsylvania, it is 2754 feet; and passing between the James and the Kanawha rivers in Virginia, its elevation nowhere descends to a lower level than 2079 feet; beyond this it again rises in the Blue Ridge; leaving which in Northern Georgia, it progressively declines, first rapidly, then very gently, through that State, until, traversing the length of Florida, it is nowhere elevated 100 feet above the sea.

5th, Gulf of Mexico River System, or that of the Missouri and Mississippi.—This vast river-system, embracing all the southern half of the Great Central Plain of the continent, has its northern boundary in the east and west water-shed bordering the Saskatchewan and Winnipeg drainage from the Rocky Mountains, to near the head of Lake Superior; and in the southern border of the St. Lawrence basin, thence to the sources of the Alleghany River in New York. Its western limit is the primary water-shed of the continent, already traced, with which it coincides, from the sources of the Missouri to Yucatan; while its eastern border is the Appalachian water-shed, from the head springs of the Alleghany River to the point of Florida. All that chief portion of it north and west of the Mexican Gulf, possesses in reality three slopes: a wide one descending from the Rocky Mountain axis, to the valley of the Mississippi, down which descend all the streams entering the Gulf and the lower Mississippi from the west; another declining southward from the northern rim of the basin, down which flow all the northern tributaries of the Missouri, the Mississippi, and the Ohio; and a third, falling more rapidly than either of these, westward from the Appalachian water-shed, irrigated by all the southern tributaries of the Ohio and the eastern feeders of the lower Mississippi. The great Missouri itself flows along the south-east dipping-trough, formed by the intersection of the eastward and southward slopes; while the Ohio, with its head the Alleghany, descends in a similar manner south-westward along the shorter trough made by the intersection of the southward and westward slopes. The point of junction of the Ohio and the Mississippi may be regarded as the place of meeting of the three inclined planes. The elevations of the three borders of this quadrangular basin have been stated already, but a few additional heights will contribute to a clearer notion of the form of its surface. The Mississippi flows so gently southward along its axis of lowest depression, that at the mouth of the Missouri, nearly 700 miles from the sea, the elevation of the valley is only 388 feet; and so gently does the northern slope descend, that at the Falls of St. Anthony, 1150 miles from the sea, and not far from the northern rim, the height is no more than 856 feet. Westward, for a great distance, the ascent is extremely gentle, the elevation at the mouth of the Republican Fork of the Kansas, about 340 miles west of the Mississippi at St. Louis, amounting to but little more than 1000 feet; but that of the opposite slope is rather steeper, the mouth of the Tennessee river being 286 feet above the Atlantic, while the height of the slope at Chattanooga in the mountains, is 624 feet, the distance in a right line being about 230 miles. It has been shown already, that we must advance from the Mississippi westward, nearly to the longitude of 100° west, to attain an elevation above tide of 2000 feet, while northward, proceeding quite as far, to the water-shed just south of Lake Superior, we get no higher than about 1000 feet, and in something like half the same distance south-eastward from the mouth of the Ohio, we encounter the Appalachian water-shed on the northern border of Georgia, with a mean elevation of about 2000 feet. About one-third of the Missouri-Mississippi basin, namely, that western portion from the Rocky Mountain water-shed, to the eastern edge of the Barren Steppes, is, with the exception of a few valleys in the Rocky Mountains, extremely arid and sterile; but a large part of the remaining two-thirds, especially all that to the east of the meridian of 96° west, is well irrigated, and possesses fertile soils and climates, making it, with its vast coal fields, and other mineral wealth, a region of unsurpassed productive resources. From the western slopes of the Appalachians, to the prairies beyond the Mississippi, the Wabash, and Lake Michigan, and from the Gulf of Mexico northward to

the lakes; throughout, in other words, the whole western slope of the basin, the surface was originally clothed with one almost unbroken forest; but westward of the limit traced, the wide trough of the Missouri, and the slope ascending to the Rocky Mountains, is, in its eastern half, a region of gently rolling verdant prairies, a vast open expanse of grassy and flowery uplands, intersected by broad river-valleys and their countless ravines, all fringed with strips of woodland, beautiful patches of which, in the better-watered districts, stretch out upon the higher plains. From the Arkansas, southward, large tracts of this prairie country are sprinkled with clumps of forest, creating in the midst of these verdant wastes, great natural parks of the highest beauty.

6th, The Northern Pacific System, or Northern Half of the Pacific Slope.—This, like the Atlantic River System, is a long narrow belt sloping all one way, in the present instance, from the water-shed of the Rocky Mountains and the plateau west of it, westward into the Pacific Ocean. Its shore line is of enormous extent, stretching from Behring Strait to the southern end of the peninsula of Lower California. From Russian America to the northern rim of the desert-basin of Utah, its boundary is the primary water-shed or backbone of the Continent already traced. This widest part of the zone contains its chief large rivers. These are the Yukon of Russian America; the Frazer River of British America, entering the Pacific Ocean by the Gulf of Georgia, opposite Vancouver Island; and the Columbia River of the United States, the largest of all. South of latitude 42°, this belt of direct drainage into the Pacific is narrowed to a comparatively slender strip, being the confined slope bounded on the east by the crest or water-shed of the Sierra Nevada of California, and its extension southward, the mountain axis of the peninsula of Lower California. Within this part of the slope the only rivers of magnitude are the Umpqua, the Klamath of the Coast, the Sacramento River, and the San Joaquin of the gold-bearing valley of California. The whole of this zone of river-drainage slopes rapidly to the sea from a high eastern axis or water-shed.

7th, The Continental River System, or Land-locked Basin of Utah and California.—This is a wide elevated desert plateau of approximately triangular form, bounded northward by the high level water-shed, insulating it from the southern streams of the Snake River of the Columbia, eastward by the Wahsatch Chain and the Rio Colorado, south of latitude 36°, and westward by the Sierra Nevada of California. The eastern and northern tracts of this desert are from 4000 to 5000 feet above the sea, but its general surface gradually descends to a much lower level southward, and it has likewise a slight declension towards the west. In the region of the Mojave, it is only a very few hundred feet above the tide; no mountain rim confines it on this southern side, or on its wider northern border. The interior of this high insulated basin is traversed by a broad belt of parallel mountain ridges, ranging nearly north and south, coinciding in direction with the Wahsatch and Rocky Mountains east of them, and with the northern part of the Sierra Nevada, and coast ranges west of them. They are called the Humboldt Mountains, and are turned at their northern extremities, and partially cut through by the Humboldt river—a long attenuated stream which flows westward, and loses itself by evaporation in the Humboldt Lake, a mere morass or sink. None of the waters of this desert, which for the most part are salt, or at least brackish and very scanty, flow off into the ocean; for it is a region where the evaporation by hot and parched winds, balances the supply from the clouds, which by observation and estimation scarcely amounts to five inches in the year. Within its limits are more than twenty lakes, fed chiefly by feeble streams from the mountains, and nearly all of these are more or less salt. The Great Salt Lake, so called, in the north-east corner of the basin, is by far the largest. It is about 75 miles long, and has a mean breadth of 30 miles, but, like many of the others, it is not at all deep, having only 15 or 20 feet of water near the shore, and 36 feet farther in. It is almost encircled by salt marshes, and has evidently been at one period considerably larger than at present; indeed, there are large patches throughout the desert which indicate, in their perfect levelness, their incrustations of salt, and their lake-like shape, the former presence of similar salt lakes dried entirely away by excess of evaporation, which has only partially shrunk the dimensions of this still extensive sheet of water. As a consequence of the equilibrium or excess of evaporation over supply, none of these very brackish lakes possess outlets, but only in some instances an overflow from one into another adjoining it. The general surface of the desert is arid in the extreme; treeless, and, except on the slopes of the higher ridges, or in the humid morasses near the lakes, destitute of vegetation.

8th, The Southern Pacific System, or that of the Gulf of California and Western Central America.—This district of streams flowing to the Pacific is bounded, like the northern, by the primary water-shed of the Continent, here coincident with the main axis of the Sierra Madre or Cordillera of Mexico, and the American Isthmus. It extends from the sources of the Colorado in the Wind-River Mountains, near latitude 43° 30', south and south-east as far as Panama. Its northern portion, north of the Gulf of California, is an arid region, and in some parts as parched and desert as the dry plateau of Utah, into which, indeed, it merges by the southward subsidence of the dividing water-shed of the Wahsatch Mountains. The southern division, stretching from the head of the Gulf of California, is much better watered; for the Pacific Mountains, which further north intercept so effectually the moisture of the Pacific winds, subside and cease in the peninsula of California, so that the belt loses the basin form, and becomes a single slope facing the sea, and gathering mist and a moderate amount of rain. Its rivers, therefore, are comparatively short and numerous. Even this region, however, contains some semi-arid tracts, especially in the interior.

CLIMATES OF THE UNITED STATES.—North America possesses, in respect to temperature especially, nearly all the climates of the globe, but their geographical distribution is peculiar. The more remarkable ones, so far as they are susceptible of description in a general way, will be briefly sketched. This Continent, being more restricted in its dimensions, especially in its east and west diameter, than that of Europe and Asia, yet comprises almost as wide a range of heat and cold, and of dryness and humidity. Here these extremes are brought together within narrower limits; there they are expanded, both in latitude and longitude, over wider zones. Here, geographically, their transitions are more abrupt; there, their gradations are more gentle.

This closer packing together of the various belts of temperature and humidity, the result of a closer proximity of the earth's tropical and polar currents, oceanic and atmospheric, occasions the several climates of the Continent to act and react upon each other with greater potency. Hence the whole region is one of marked climatal contrasts,—contrasts as striking, when we compare different districts, as when we regard the different seasons.

Geographically surveyed, this fact of contrast in its climates is conspicuously seen when we compare first the east with the west side of the Continent. Thus, throughout much of its western slope, all the atmospheric changes, as well the periodic ones of season as the non-periodic fluctuations, are distinguished by relatively small oscillations, and by a state of equilibrium; whereas, throughout the eastern half of the Continent, the law of the seasons and the weather is that of sudden and wide transitions. Again, when we compare the north and the south slopes of the land, or those severally influenced by the Arctic Sea and the tropical Gulf of Mexico, we discern the contrast under a different form. Both are regions of comparatively steady climates, but one of them is, for the hemisphere, abnormally cold throughout the year; the other abnormally hot. In

the one, a polar climate occupies latitudes which, in other parts of the world, are temperate; in the other, the climate of the equator encroaches upon a zone which is extra-tropical.

These contrasts in the climates display themselves in remarkable relief, when we compare the Atlantic side with the Pacific. Thus, between latitudes 50° and 30° north, we find, from the Atlantic to the Mississippi, all the climates whose mean temperatures for the year range from 32°, or the freezing-point, up to 70°, or summer-heat; while on the Pacific, within the same zone of 20°, the range is from a mean temperature of 51° to a mean temperature of 66°. In the one case, 20° of latitude include mean annual temperatures nearly 50° apart; in the other, mean temperatures differing only about 15°; so striking is the contrast between the climatal diversities of the eastern, and the climatal sameness of the western portions of the Continent.

The close crowding of the extremes of temperature, extends from the Atlantic about half way across the Continent, or as far as the Valley of the Winnipeg and Texas, beyond which, the gradation between north and south grows progressively gentler, especially after passing the interruption caused by the Rocky Mountains, until we reach the Pacific. There, and in the great desert regions to the east of it, the lines of similar temperature, or the isothermals, have their maximum of expansion north and south. From the Atlantic to longitude 97° or 98° west, places possessing the same average temperature for the year—however they may differ in their summers and winters—range themselves in lines running approximately east and west, undulating where the comparison is between low plains and abrupt elevations; but west of the meridian indicated, the lines tying together such places of average annual warmth, swerve off to the north-west in all the district north of latitude 40°, and east of the Rocky Mountains; and so great is this deflection, that places in the valley of the Mackenzie River, as high north as latitude 60° and 61°, are as safe for the cultivation of wheat as those under latitudes 45° and 46°, in Minnesota and Canada. Neglecting the lesser undulations northward and southward, of zones of mean annual warmth, and giving attention only to the more conspicuous ones, we have, first, this region east of the Rocky Mountains, where the warmth ascends far to the north, making soft climates all the year round in comparatively high latitudes;—a transition from the state of things on the Atlantic side of the Continent, which appears to be greater and greater the further we travel north.

To the south-west of this middle zone succeeds suddenly a wintry region in the elevated belt of the Rocky Mountains, which carry a sub-arctic climate into elsewhere temperate latitudes. Beyond this refrigerated narrow tract of Continent, there occurs another warm belt, ranging north-north-west, parallel with the Mountains and the Pacific coast, in which, notwithstanding a high general level above the sea, the temperature is everywhere remarkably warm for the latitude. Here the lines of average annual warmth of 45° and 50° of Fahrenheit; or, in other words, the climates which embrace Massachusetts, New York, and Pennsylvania, Northern Ohio, Southern Michigan, and Iowa, after ascending northward to the Upper Missouri, and then suddenly deflecting to turn the Rocky Mountains, between latitudes 35° and 37°, mount again far to the northward into British America, and ascend even to latitudes 55° and 57° upon the Pacific coast. Further southward, or between the Columbia River and the Peninsula of California, there exists an opposite condition of things, in a narrow belt of unusually cool climate, occupying the immediate coast, or slender strip between the coast mountains and the sea; but between this cool oceanic border and the Great Chippewyan Chain, the whole broad, desert plateau throughout New Mexico, Utah, and Oregon, to latitudes much further north, the desert district, despite its elevation, has climates abnormally warm for the mean temperature of the Continent. Thus, then, in traversing the United States, from the Atlantic to the Pacific, we cross five regions of different mean annual climate; 1st, a region possessing the temperatures of the Atlantic slope, extending as far as longitude 97°; 2d, the wide, elevated district of the Western Steppes, much warmer for its latitudes than the country east of it; 3d, the cool mountain belt of the Chippewyan Chain; 4th, the excessively heated desert region, extending from that chain, almost, and in certain latitudes, quite to the Pacific; and 5th, a narrow, very cool district, immediately bordering that ocean.

These remarkably different climatal areas, display yet more strongly their characteristics, or show bolder contrasts, when we regard, not their mean annual temperatures, but their summer warmth and winter cold. From the Atlantic, to about the meridian of 95° west, the zones of equal summer temperature, or of sameness of summer climate, range very much as those of the year do, namely, due westward, though with much more conspicuous undulations, caused by the local effects of the sea, the Appalachians, and the Great Lakes; but, beyond that longitude, they swing northward very rapidly, carrying a summer warmth to near the Arctic circle, east of the Rocky Mountains. The line of maximum summer temperature east of that chain, ranges from the Upper Saskatchewan, near longitude 110°, south-eastward, nearly to the Missouri river in latitude 45°, where it curves rapidly southward to follow nearly the meridian of 98° or 97°, through the summer-scorched prairies of Nebraska, Kansas, and Texas, until it encroaches on the Gulf of Mexico.

The other warmest belt, or that of excessive summer temperature, ranges through the middle of the great interior desert, west of the Rocky Mountains, from north of the Columbia River, southward a little east, to the head of the Gulf of California. In the eastern, or prairie tract, the belt, possessing an average summer warmth of 60°, or that which is compatible with the growth and ripening of wheat, after ranging nearly due westward from Prince Edward Island, to the head of Lake Superior, turns abruptly northward, and ascends to beyond the 60th parallel; there turning suddenly southward in the Rocky Mountains, this Isothermal follows the slope of that chain to the sources of the Rio del Norte, where, crossing the mountains, it turns once more north-westward, to range along their western base to a high latitude, probably beyond 60°, where, curving westward, and approaching the Pacific, it turns sharply southward, and ranges down the coast at a short distance inland from the sea, the whole way to latitude 34° or 35°, leaving the continent near Santa Barbara. Eastward, or inland from this line, the temperature of the country rapidly increases, notwithstanding its extraordinary ascent in level, until, in the centre of the Utah and Colorado Desert, the temperature, from the 32d to the 40th parallel, is of full tropical warmth, or from 80° to 85°. Westward, or directly on the coast, throughout this great distance in latitude, the summer temperature is cool, or everywhere below 60°. The chief cause of so remarkable a contrast, is to be sought in a current of cold water, of a mean temperature of 57° in the summer, which sets down the coast of the Pacific nearly to the tropic, the chill moist wind from which, blowing inward towards the heated land, cools the immediate front of the continent, but becoming rapidly heated, and therefore dried, gives forth no rain, nor even interposes clouds to intercept the heat of the sun, but leaves everywhere in its path towards the east, a parched, treeless desert, with no waters but brackish lakes.

On the eastern side of the continent, the summer season—which in its influence upon vegetable life is all controlling as respects climate—presents climatal contrasts fully as remarkable as those displayed in the Pacific slope. It is in that division of the continent, namely, a little north of Hudson Bay, that the maximum degree of cold, of the northern hemisphere, for the summer months is found; the mean summer temperature of Winter Island, latitude 66° 11', being about the freezing point. With so truly Arctic a summer in so low a latitude, this side of North America has, under the same meridian, at the same season of the year, an opposing zone of excessive tropical heat, as far removed from the equator as latitude 32° or 33°. Between the southern end of Florida, and the sea-board of South Carolina, there stretches to the table-lands of Western Texas, a wide belt bordering the Gulf of Mexico, and limited by the parallel of 32°, ascending to latitude 34°, a country having a summer temperature of 82° of Fahrenheit, or the mean annual heat of the equator. This is the sugar-growing region of the Southern States. Here then the greatest summer cold of the hemisphere, and almost the fullest summer warmth, are approximated under the same

meridian to within less than 30° of each other. No wonder that the summer portion of the year, in the country east of the Mississippi, is visited by all the extremes of cool and hot, and moist and dry, and by the most abrupt transitions of wind and temperature.

Having presented the foregoing general sketch of the chief physical divisions of North America, their limits, the relief of their surface, their drainage, and their climates, we proceed to offer a tabular statement of the political divisions of the Continent, and to follow this by a more detailed description of the countries represented in this Atlas.

The Political Divisions contain, according to late authorities, the following areas, populations, and ratios of population, to surface :—

DIVISIONS.	Area, Square Miles.	Population.	Population to a Square Mile.
Arctic Lands, (unoccupied,)	600,000	.....	.....
Greenland, &c., (Danish,)	380,000	9,400	0.0
Russian America,.....	481,276	78,000	0.1
Hudson Bay Territories,.....	2,456,000	80,463	0.1
British Colonies,	442,338	2,487,552	5.6
French Fishery Islands,	118	1,338	11.4
United States of America,	2,936,116	23,191,876	7.9
United States of Mexico,.....	829,916	7,661,520	9.2
British Honduras, &c.,	19,200	10,710	0.5
Honduras,	72,000	308,000	4.3
Guatemala,	28,000	972,000	34.7
Nicaragua,	48,000	247,000	5.1
Salvador,.....	13,000	363,000	28.0
Costa Rica,.....	16,000	138,000	8.6
The Mosquito Coast,	23,000	6,000	0.3
TOTAL,.....	8,324,964	35,554,859	4.2

Commencing with the more northern political divisions, included in this Atlas, namely, the British Colonies in North America, the following Table exhibits their respective areas, populations, and chief towns, as these stood in 1851 :—

DIVISIONS.	Area Sq. Miles.	Population.	Pop. Sq. Miles.	CHIEF TOWNS.
Canada,	357,822	1,842,265	5.1	Quebec.
New Brunswick,	27,704	193,800	7.0	Fredericktown.
Nova Scotia, &c.,	18,746	276,117	14.7	Halifax.
Prince Edward Island,	2,134	62,678	29.3	Charlotte Town.
Newfoundland,	35,913	101,600	2.8	St. John's.
TOTALS,	442,319	2,476,460		

CANADA.

Position.—Canada lies between latitudes 52° 40' and 41° 47' north, and longitude 61° 54' and 90° 20' west from Greenwich.
Boundaries.—*North*, The water-shed separating the St. Lawrence basin from the river-basin of Hudson Bay. *East, south-east, and south*, Labrador, the Gulf of St. Lawrence, the Province of New Brunswick, and the States of Maine, New Hampshire, Vermont, New York, and the St. Lawrence River, and Lakes Ontario, Erie, Huron, and Superior ;—*and, West*, by the River Kaministiquia, which enters Lake Superior near Isle Royale.

Extent.—The length of Canada East and West, is about 1275 miles ; its average breadth nearly 200 miles, though its least width is 80, and its greatest 300 miles. The estimated area of Upper Canada is 147,832, and that of Lower Canada 209,990 square miles.

Surface and Scenery.—On both sides of the valley of the lower, or tidal division of the St. Lawrence, the scenery is mountainous and bold ; and that of its northern tributary, the Saguenay, is almost sublime. West of the Chaudière, there commences a highly fertile plain, watered by the river Richelieu, and other streams heading southward in the Appalachian Hills. The features of Upper, or Western Canada, are comparatively monotonous, wide tracts of it consisting of undulating plains, enclosing broad shallow valleys, and low chains of hills.

Rivers and Lakes.—Almost the whole of Canada is watered by one great river and its tributaries, with its lake expansions. This is the St. Lawrence which, for its length and the volume of its waters, is one of the chief streams of the continent. Its entire length from the Gulf to the sources of the River St. Louis, a feeder of Lake Superior, is about 3000 miles, nearly 700 of which belong to the St. Lawrence, so called, or the portion below Lake Ontario ; the estimated annual discharge of this mighty stream is 4,300,000 tons of fresh water. The Ottawa, the largest tributary, has a length, including the portion above Lake Temiscaming, of more than 450 miles ; the whole area drained by this river is 80,000 square miles.*

The climate and productions of Canada have been sufficiently indicated in the general sketch already given of these, in describing the physical sections of the Continent.

Divisions.—Lower Canada, or Canada East, contains fifty-nine counties under a recent subdivision, and Upper Canada, or Canada West, forty-two counties.

Upper Canada, with a total population of 952,004 inhabitants, contained by the last census :—

Born in the British Islands,	334,777
“ “ Canada, not French,	526,093
“ “ Canada, French,	26,417
“ “ United States,	43,732

Lower Canada, with a total population of 890,261 inhabitants, contains :—

Born in the British Islands,	77,294
“ “ Canada, not French,	125,580
“ “ Canada, French,	669,528
“ “ United States,	12,482

* This district, now very thinly inhabited, is estimated capable of supporting a population of 8,000,000. Its soil is for the most part fertile, and it contains valuable minerals and timber.

Immigration into Canada.—In 1854 there arrived from England and Wales 18,175, Ireland 16,168, Scotland 6,446, Lower Ports, 857, European Continent, 11,537; or a total of 53,183 immigrants. Up to the end of 1854, there had immigrated in all 824,187. While Upper Canada has more than doubled its population in the last ten years, Lower Canada has required twenty-five years to double its inhabitants.

Agriculture.—By the Census of 1851, it appears that Canada possesses,—

	Upper Canada.	Lower Canada.	Total.
Total Acres,	20,794,825	134,393,600	155,188,425
Acres of Land held,	9,826,417	8,113,379	17,939,796
Acres under Cultivation,	3,695,763	3,605,076	7,300,839

GRAIN CROPS IN BUSHELS IN 1851 :—

	Wheat.	Rye.	Oats.	Buckwheat.	Barley.	Maize.
Upper Canada, .	12,674,503	479,623	11,186,161	679,754	625,355	1,662,524
Lower Canada, .	3,045,600	345,290	8,984,123	588,280	456,344	419,017
TOTAL,	15,720,103	824,913	20,170,284	1,268,034	1,081,699	2,081,541
United States, .	100,485,944	14,188,813	146,584,179	8,956,912	5,167,015	592,071,104

Lumber.—The product of Canada in lumber is very great; the saw-mills of the Ottawa and Saguenay turning out annually more than 800,000,000 feet of lumber, and 5,000,000 planks.

Minerals.—Copper and iron, of great value, and in great abundance, are found towards the north of Lakes Huron and Superior. These will become available when the projected railways through the Valley of the Ottawa and along the northern shores of the lakes are carried through.

Canals and Railways.—The canals of Canada, though not long, are of great capacity, and are very superb works; that along the St. Lawrence, from the tide to Lake Ontario, consists of 41 miles of canal, in seven interrupted sections, overcoming impediments in the river. Some of the locks are 200 feet long, and 40 to 50 feet wide, 10 feet deep, and from 100 to 140 feet on the broad water-surface. The Rideau Canal, from Lake Ontario to Ottawa City, is 135 miles long, and carries vessels of 120 tons burden.

The railways of Canada are on a grand scale; and some of their viaduct bridges among the most stupendous in the world. Such are the Victoria Tubular Bridge across the St. Lawrence, near Montreal, and the great Suspension Bridge over the Niagara River, below the Falls. It is estimated that Canada possesses at present (1857) 2000 miles of railway, costing £18,000,000 sterling.*

Commerce.—The *Imports* of Canada for 1852 were valued at a little more than £5,000,000.

The *Exports* for the same year at £3,827,000. This was exclusive of vessels exported.

The coasting traffic, and interior commerce between Canada and the United States in 1854, engaged 7,470,312 tons of shipping, about one-third of which was American, U.S.

Cities and Towns.—In Upper Canada, Toronto the capital, now contains about 55,000 inhabitants. In Lower Canada, Montreal, also growing rapidly, contains at present about 75,000. Quebec (1851), 61,526. Kingston (1852), 11,585.

THE UNITED STATES.

Position.—The United States lie between latitudes 49° and 24° 20' north, and longitudes 66° 48' and 125° 32' west.

Boundaries.—*Northern*, The 49th parallel separates the United States from British America, between the Pacific Ocean and the Lake of the Woods, east of which the line runs through the Great Lakes and the St. Lawrence, and thence along the southern border of Canada to the Atlantic at the mouth of the St. Croix. *Eastern*, The Atlantic Ocean from the St. Croix, to the south end of Florida. *Southern*, The Gulf of Mexico, thence the Rio Grande north-westward to El-Paso, thence the present northern boundary of Mexico, nearly westward to the Pacific Ocean, near the Bay of San Diego. *Western*, The Pacific Ocean from the last-named point, to latitude 49°.

Dimensions.—The length of the United States, east and west from Passamaquoddy Bay to the Pacific in the same latitude, is about 2850 miles; and the breadth of the country north and south on the meridian of 97° west, or the mouth of the Rio Grande, is about 1600 miles. The extent of the whole frontier is about 10,000 miles; 5100 being sea-coast, 1200 lake and river coast, and 3900 conventional boundaries across the land. But following the sinuosities of its shores, its entire sea-line is about 12,600 miles; that on the Atlantic, including bays and sounds, being 6860 miles.

The estimated *area* is 2,963,666 square miles. The Pacific slope, or region west of the primary water-shed, contains about 786,000 square miles; the Atlantic slope, 514,416 square miles; the Northern Lake, or Lawrentian basin, 112,649 square miles; the Gulf of Mexico slope, about 333,037 square miles; and the Mississippi basin, 1,217,562 square miles. The total area east of the Rocky Mountains, 2,073,459 square miles, while west of the Rocky Mountains, it is 890,209 square miles. The area east of the Mississippi amounts to 865,576 square miles.

The total river shore line, counting both banks, is estimated at 49,065 miles. Europe has 156 square miles of surface to one mile length of coast; the United States 241 to 1.

The territorial increase of the United States displays the following acquisitions :—

Area at Peace of 1783,	820,680 square miles.
By purchase of Louisiana, 1819,	899,579 " "
By the Florida Treaty, 1819,	66,900 " "
By the Annexation of Texas, 1846,	318,000 " "
By the Oregon Treaty, 1846,	308,052 " "
By the Treaty with Mexico, 1846,	522,955 " "
By the Treaty with Mexico, 1853,	27,500 " "

TOTAL, 2,963,666

* The Grand Trunk Railway connects, through Quebec, Montreal, and Portland, the Atlantic Ocean with the extreme West of Canada, and with the vast network of railways in the western portions of the United States. This line was opened in 1856, and 849 miles are now in operation. When completed, it will extend to upwards of 900 miles, and the capital invested will amount to £12,000,000 sterling, or 60,000,000 of dollars. The Victoria Tubular Bridge is 7000 feet in length, and is supported on twenty-four pieces of solid masonry, composed of stones from one to three tons in weight, bound together with iron. The piers will present to the current a narrow edge, with an acute angle, in order to ward off the masses of ice which are borne down by the stream on the breaking up of the lakes and rivers in spring. It is expected that the bridge will be opened in 1859.

Political Divisions, Population, &c.—The United States include 31 States; 7 Organized Territories; the undivided Indian Territory, and the Federal District of Columbia.

STATISTICS OF THE FREE AND SLAVE STATES, ACCORDING TO THE UNITED STATES CENSUS OF 1850.

THE FREE STATES.	Area in Sq. Miles.	POPULATION.				Popu- lat on to Square Mile.	Valuation of Property.	Cash Value of Farms.	Acres of Im- proved Land.	Value of Live Stock.	Educational Income.	Capital in Manufactures	Miles Rail- way in 1850.
		Whites.	Free coloured	Slaves.	Total.								
1. Maine,	31,766	581,813	1,356	...	583,169	18.36	\$122,777,571	\$54,861,748	2,039,596	\$9,705,726	\$401,347	\$14,700,452	175
2. New Hampshire,	9,280	37,456	520	...	37,976	34.26	103,652,835	51,245,997	2,251,488	8,871,901	231,529	18,242,114	309
3. Vermont,	10,212	313,402	718	...	314,120	30.76	92,205,049	63,367,227	2,601,409	12,643,228	256,898	5,001,377	243
4. Massachusetts,	7,800	985,450	9,064	...	994,514	127.50	573,342,286	109,076,347	2,133,476	9,647,710	1,486,796	83,357,642	1095
5. Rhode Island,	1,306	113,875	3,670	...	117,545	112.97	80,508,794	17,070,802	356,487	1,532,637	160,904	12,923,176	50
6. Connecticut,	4,674	363,099	7,693	...	370,792	79.33	155,707,980	72,726,422	1,768,178	7,167,490	436,979	23,890,348	434
7. New York,	47,000	3,048,325	49,069	...	3,097,394	65.90	1,080,309,216	554,546,642	12,408,964	73,570,499	2,718,939	99,904,405	1070
8. New Jersey,	8,320	465,509	23,810	...	* 489,555	58.84	153,151,619	120,237,511	1,767,991	10,679,291	600,232	22,184,730	231
9. Pennsylvania,	46,000	2,258,160	53,626	...	2,311,786	50.26	729,144,998	407,876,099	8,623,619	41,500,053	2,251,520	94,473,810	981
10. Ohio,	39,964	1,955,050	25,279	...	1,980,329	49.55	504,726,120	358,758,603	9,851,493	44,121,741	1,097,945	29,019,538	299
11. Indiana,	33,809	977,154	11,262	...	988,416	29.24	202,650,264	136,385,173	5,046,543	22,478,555	445,064	7,941,602	86
12. Michigan,	56,243	395,071	2,583	...	397,654	7.07	59,787,255	51,872,446	1,929,110	8,008,734	214,717	6,534,250	344
13. Illinois,	55,405	816,034	5,436	...	851,470	15.37	156,265,006	96,133,290	5,039,545	24,209,258	419,433	6,385,387	22
14. Wisconsin,	53,924	304,756	635	...	305,391	5.66	42,056,595	28,528,563	1,045,499	4,897,385	138,473	3,382,148	...
15. Iowa,	50,914	191,881	333	...	192,214	3.78	23,714,638	16,657,567	824,682	3,639,275	65,800	1,292,875	...
16. California,	155,980	91,635	962	...	92,597	.59	22,161,872	3,874,041	32,454	3,351,058	35,092	1,006,197	...
Total.....	612,597	13,238,670	196,016	...	13,434,922	21.91	\$4,102,162,098	\$2,147,218,478	57,720,494	\$286,374,541	\$10,971,768	\$431,290,351	5339
THE SLAVE STATES.													
1. Delaware,	2,120	71,169	18,073	2,290	91,532	43.18	\$18,855,863	\$18,380,031	580,862	\$1,849,281	\$114,599	\$2,978,945	16
2. Maryland,	11,124	417,943	74,723	90,368	583,034	52.41	219,217,364	87,178,545	2,797,905	7,997,634	583,303	14,753,143	324
3. Virginia,	61,352	894,800	54,333	472,523	1,421,661	23.17	391,646,438	216,401,543	10,360,135	33,656,659	854,860	18,109,993	303
4. North Carolina,	50,704	553,028	27,463	268,548	869,039	17.14	226,800,472	67,891,766	5,453,975	17,717,647	421,959	7,252,225	302
5. South Carolina,	29,385	274,563	8,960	384,984	668,507	22.75	288,257,694	82,431,684	4,072,551	15,060,015	510,879	6,056,865	241
6. Georgia,	58,000	521,572	2,931	381,682	906,185	15.62	335,425,714	95,753,445	6,378,479	25,728,416	480,514	5,460,483	609
7. Florida,	59,268	47,203	932	39,310	87,445	1.48	23,198,734	6,323,109	349,049	2,880,058	54,519	547,060	54
8. Alabama,	50,722	426,514	2,265	342,844	771,623	15.21	228,204,332	64,323,224	4,435,614	21,690,112	663,798	3,450,606	113
9. Mississippi,	47,156	295,718	930	309,878	606,526	12.86	228,951,130	54,738,634	3,444,358	19,403,662	460,205	1,833,420	60
10. Louisiana,	41,255	255,491	17,462	244,809	517,762	12.55	233,998,764	75,814,398	1,590,025	11,152,275	731,165	5,318,074	66
11. Texas,	237,504	154,034	397	58,161	212,592	0.89	55,362,340	16,550,008	643,976	10,412,927	178,411	539,290	...
12. Arkansas,	52,198	162,189	608	47,100	209,897	4.02	39,841,025	15,265,245	781,530	6,647,969	105,819	324,065	...
13. Tennessee,	45,600	756,836	6,422	239,459	1,002,717	21.99	207,454,704	97,851,212	5,175,173	29,978,016	443,868	6,975,279	...
14. Kentucky,	37,680	761,413	10,011	210,981	982,405	26.07	301,628,456	155,921,262	5,968,270	29,661,436	653,036	12,350,734	28
15. Missouri,	67,380	592,004	2,618	87,422	682,044	10.12	137,247,707	63,225,543	2,958,425	19,887,580	440,641	9,079,695	...
Total.....	851,508	6,184,477	228,128	3,200,364	9,612,969	11.29	\$2,936,090,737	\$1,117,649,649	54,975,427	\$253,723,687	\$6,697,536	\$95,029,877	2016
District of Columbia,	60	37,941	10,059	3,687	51,687	861.45	16,723,619	1,730,460	16,267	71,643	122,272	888,965	...
THE FREE STATES, ...	612,597	13,238,670	196,016	*(236)	13,434,922	21.91	4,102,162,098	2,147,218,478	57,720,494	286,374,541	10,971,768	431,290,351	5339
THE TERRITORIES,	1,472,061	91,980	292	(26)	92,298	.06	11,586,512	4,976,839	320,426	4,010,645	42,155	1,050,300	...
Total of U. S. ...	2,936,166	19,553,068	434,495	3,204,313	23,191,876	7.90	\$7,066,562,966	\$3,271,575,426	113,032,614	\$544,180,516	\$17,824,331	\$527,209,193	7355

* The Census erroneously reports 236 persons in New Jersey under the caption of "Slaves." In that State slavery was provisionally abolished in 1784; all children born of a slave after 1804 were free in 1820.

ADDITIONAL STATISTICS TO 1856.

FREE STATES.	Population in 1856.	Slaves in 1856.*	Value of Real and Personal E-state, as given by Secretary of Treasury, 1856.	Tonnage, 1855. Value \$50 per ton.	Exports, 1855.	Imports, 1855.	Canals, 1854.	Railways, 1856.
California,	335,000	...	\$165,000,000	\$92,623	\$8,224,066	\$5,951,379	...	22
Connecticut,	401,292	...	203,756,831	137,170	878,874	636,826	61	699
Illinois,	1,242,917	...	333,237,474	53,797	547,053	54,509	100	2,285
Indiana,	1,149,606	...	301,858,474	3,698	...	...	367	1,789
Iowa,	325,014	...	110,000,000	...	...	...	...	94
Maine,	623,862	...	131,128,186	806,587	4,851,207	2,927,443	50	494
Massachusetts,	1,133,123	...	597,936,995	970,727	28,190,925	45,113,774	100	1,451
Michigan,	509,374	...	116,593,580	69,490	568,091	281,379	...	679
New Hampshire,	324,701	...	103,801,327	80,330	1,523	1,786	11	660
New York,	3,470,059	...	179,750,000	1,404,221	113,731,238	164,776,511	989	2,794
New Jersey,	569,499	...	1,364,154,625	121,020	687	1,473	147	504
Ohio,	2,215,750	...	860,877,354	91,607	847,148	600,656	921	2,725
Pennsylvania,	2,542,960	...	1,031,731,304	397,768	6,274,338	15,309,935	937	1,777
Rhode Island,	166,927	...	91,699,850	51,038	336,023	536,387	...	145
Vermont,	325,206	...	91,165,680	6,915	2,895,468	591,593	...	516
Wisconsin,	552,109	...	87,500,000	15,624	174,057	48,159	...	467
Total.....	15,887,399	...	\$5,770,194,680	\$4,252,615	\$167,520,693	\$236,847,810	3,682	16,201
SLAVE STATES.								
Alabama,	835,192	414,888	\$279,233,027	\$36,274	\$14,270,586	\$619,964	51	397
Arkansas,	253,117	85,722	61,240,726	...	...	...	...	87
Delaware,	97,295	2,129	30,466,924	19,186	68,087	5,821	14	94
District of Columbia, .....	...	3,224	...	...	...	...	...	...
Florida,	110,725	49,608	49,461,461	14,835	1,403,594	45,998	...	26
Georgia,	935,030	461,834	500,000,000	29,505	7,543,519	273,716	28	1,142
Kentucky,	1,086,587	229,252	411,000,098	22,680	...	...	486	284
Louisiana,	610,387	311,520	270,425,000	201,149	55,367,962	12,900,821	101	296
Maryland,	639,580	90,438	261,243,660	234,805	10,395,984	7,788,946	184	543
Mississippi,	671,619	419,367	251,525,000	2,475	...	1,661	...	337
Missouri,	831,215	113,748	223,948,731	60,592	...	...	...	145
North Carolina,	921,852	317,302	239,603,372	60,077	433,818	243,083	13	653
South Carolina,	705,661	425,887	303,434,210	60,235	12,700,250	1,588,542	50	846
Tennessee,	1,092,470	283,486	321,776,810	8,404	...	...	...	592
Texas,	500,000	100,000	240,000,000	8,812	916,961	262,568	...	57
Virginia,	1,512,593	487,293	530,994,897	92,788	4,379,928	855,405	189	1,295
Total,	10,793,413	3,795,698	\$3,977,353,946	\$855,517	\$107,480,688	\$24,586,528	1,116	6,746
GRAND TOTAL,	26,680,812	3,795,698	\$9,747,548,626	\$5,108,132	\$275,001,381	\$261,434,338	4,798	22,947

* Estimated at ratio of last decennial period.

COMPARATIVE VIEW OF FINANCES OF THE STATES, JANUARY 1, 1856.

STATES	Absolute Debt.	Contingent Debt.	Total Debt.	Annual Interest on Absolute Debt.	Amount of School Fund.	Other Productive Property.	Other Property not now Productive.	Ordinary Annual Expenditure exclusive of Debt (p. 1)
Maine,	\$657,500	\$306,480	\$963,980	\$39,450	\$125,281	\$575,031	.....	150,000
New Hampshire,	None.	.....	None.	.....	None.	None.	.....	80,000
Vermont,	None.	.....	None.	.....	None.	None.	.....	100,000
Massachusetts,	1,764,000	5,019,555	6,813,555	105,000	1,625,932	7,462,211	\$2,656,483	600,000
Rhode Island,	None.	382,335	382,335	.....	73,896	.....	.....	55,000
Connecticut,	None.	.....	None.	.....	2,049,953	406,000	.....	130,000
New York,	25,461,898	770,000	26,231,898	1,372,000	6,740,662	38,800,000	.....	750,000
New Jersey,	95,000	.....	95,000	5,700	413,175	252,174	761,670	125,000
Pennsylvania,	40,196,994	.....	40,196,994	2,022,128	.....	35,774,271	321,032	435,000
Delaware,	None.	.....	None.	.....	435,500	350,638	.....	25,000
Maryland,	10,669,856	4,279,732	14,949,588	560,000	161,867	13,355,797	13,612,416	170,000
Virginia,	26,001,012	3,898,500	29,899,512	1,530,000	1,641,758	3,044,282	21,596,824	600,000
North Carolina,	5,209,848	.....	5,209,848	312,591	1,538,995	3,077,000	.....	85,000
South Carolina,	2,287,156	3,000,000	5,287,156	124,177	.....	4,683,473	.....	115,000
Georgia,	2,644,222	.....	2,644,222	158,653	23,086	5,000,000	250,000	131,000
Florida,	None.	.....	None.	.....	.....	.....	.....	45,000
Alabama,	5,888,134	.....	5,888,134	315,000	1,258,933	132,000	.....	100,000
Mississippi,	2,271,707	5,000,000	7,271,707	136,000	.....	.....	2,000,000	130,000
Louisiana,	3,839,222	8,620,128	12,459,350	250,000	461,269	.....	2,416,938	515,000
Texas,	None.	.....	None.	.....	2,128,668	1,575,000	.....	100,000
Arkansas,	1,506,017	1,813,579	3,319,596	82,800	.....	.....	.....	35,000
Tennessee,	3,992,857	4,752,000	8,744,857	215,327	584,060	2,241,827	.....	165,000
Kentucky,	5,993,577	.....	5,993,577	355,000	1,443,165	.....	.....	250,000
Ohio,	16,273,427	.....	16,273,427	955,433	5,000,000	18,000,000	.....	200,000
Michigan,	2,347,470	.....	2,347,470	140,848	1,384,288	.....	.....	125,000
Indiana,	7,338,473	.....	7,338,473	316,000	2,559,308	.....	.....	80,000
Illinois,	13,994,615	.....	13,994,615	839,000	799,083	.....	.....	125,000
Missouri,	602,000	19,000,000	19,602,000	35,805	575,668	378,538	.....	110,000
Iowa,	79,796	.....	79,796	7,600	1,000,000	58,571	.....	25,000
Wisconsin,	100,000	.....	100,000	8,000	1,897,269	.....	.....	100,000
California,	1,812,502	.....	1,812,502	120,000	463,360	.....	.....	700,000
Total, near Jan. 1, 1856,	\$182,030,283	\$56,872,259	\$238,902,542	\$10,006,812	\$34,385,476	\$135,169,816	\$43,648,393	\$6,356,000

Condition of the United States.—REVENUE AND EXPENDITURE.—The receipts into the Treasury for the year ending June 30, 1856, were,—

From Customs,	\$64,022,863
From Sales of Public Lands,	8,917,644
From Miscellaneous Sources,	977,633
Total Receipts,	\$73,918,141
Balance in Treasury, July 1, 1855,	18,931,976
Total Means,	\$92,850,117

The Expenditures were,—

For Civil List,	\$5,916,429
For Foreign Intercourse,	3,618,891
For Miscellaneous,	15,739,610
For Department of Interior,	3,872,826
For War Department,	16,948,197
For Navy Department,	14,077,017
For Total Public Debt,	12,776,390
Total Expenditures,	72,948,792
Balance in Treasury, July 1, 1856,	\$19,901,325

During the year ending June 30, 1855, there was sold, for cash, 15,729,524.88 acres; located with military warrants, 1,345,580 acres; in all, 17,075,104.88 acres. In addition, there were reported under swamp-land grants, 7,470,746.62 acres; and for internal improvements, railways, &c., 11,558 acres; making an aggregate of 24,557,409.50. During the year ending September 30, 1855, 15,315,283.18 acres were surveyed. The following table gives the sales for the year in detail in the several States :—

STATES.	Gross Amount of Lands sold during the Fiscal Year.	
	Aeres.	Purchase-money.
Ohio,	62,712.32	\$27,133.72
Indiana,	354,417.46	64,049.03
Illinois,	1,189,887.61	955,779.80
Missouri,	2,930,199.47	1,282,072.34
Alabama,	2,272,181.19	533,250.75
Mississippi,	986,213.41	285,672.91
Louisiana,	394,525.59	194,121.19
Michigan,	829,318.78	623,263.79
Arkansas,	500,514.33	192,829.77
Florida,	264,395.62	112,117.37
Iowa,	3,822,694.91	4,741,341.98
Wisconsin,	1,730,509.28	1,983,479.53
Minnesota Territory,	385,595.55	482,020.38
California, . . . . .	.....	.....
Oregon Territory, . . . . .	.....	.....
Washington Territory,	6,359.36	7,949.19
TOTAL,	15,729,524.88	\$11,485,384.75

Agriculture. —The whole area in acres of the Free States (not including California) is . . .	292,231,880
Number of acres in farms,	108,082,774
Number of acres not in farms,	184,149,106
Value of the lands in farms,	\$2,143,344,437
Value per acre,	\$19.83
Whole area of the Slave States, (including South Carolina, according to the incorrect census figures),	544,742,926
Number of acres in farms and plantations,	180,572,292
Number of acres not in farms, &c.,	364,170,634
Value of the land in farms, &c.,	\$1,117,649,649
Value per acre,	\$6.18

An error in the South Carolina return, and the omission of California, will about balance each other.
Including only the lands under cultivation in the two sections, the value per acre in the North is more than three times that of the South. Including the whole area, the proportion is still larger.

VALUE OF AGRICULTURAL PRODUCTIONS, PER ACRE, IN 1850.

The value of agricultural productions per acre for 1850 is obtained by dividing the total product by the number of acres of land under cultivation. Thus,—

FREE STATES.	
Number of acres in farms,	108,193,522
Agricultural product,	\$858,634,334
Product per acre,	\$7.94
SLAVE STATES.	
Number of acres in farms and plantations,	180,572,392
Agricultural product,	\$631,277,417
Product per acre,	\$3.49

AGRICULTURAL PRODUCTS OF THE UNITED STATES—1850.

Agricultural Products.	1850.	Agricultural Products.	1850.
Horses	4,336,719	Butter, pounds	{ 313,345,306
Mules and asses	559,331	Cheese, "	{ 105,535,893
Horses, asses, and mules.....	4,896,050	Total butter and cheese	418,881,199
Milch cows	6,385,094	Pease and beans, bushels	9,219,901
Working oxen	1,700,744	Market gardens	\$5,280,030
Other cattle	10,293,069	Nursery products .....	.....
Total neat cattle	18,378,907	Orchard "	\$7,723,186
Sheep	21,723,220	Beeswax and honey, pounds ...	14,853,790
Swine	30,354,213	Poultry .....	.....
Value of live stock	\$544,180,516	Family goods	\$27,493,644
Value of animals slaughtered	\$111,703,142	Cords of Wood .....	.....
Wheat, bushels.....	100,485,944	Flax seed, bushels	562,312
Rye, "	14,188,813	Flax, pounds	7,709,676
Oats, "	146,584,179	Dew rotted hemp, tons	33,193
Indian corn, bushels.....	592,071,104	Water " " "	1,678
Irish potatoes, "	{ 65,797,896	Maple sugar, pounds "	34,253,436
Sweet potatoes, "	{ 38,268,148	Sugar cane, hogsheads	237,133
Total potatoes, "	104,066,044	Molasses, gallons	12,700,991
Barley, "	5,167,015	Cotton, bales	2,445,793
Buckwheat, "	8,956,912	Rice, pounds	215,313,497
Hay, tons	13,838,642	Tobacco, "	199,752,655
Hops, pounds	3,497,029	Wool, "	52,516,959
Clover seed, bushels.....	468,978	Silk cocoons, pounds	10,843
Other grass seeds, bushels ...	416,831	Wine, gallons	221,249

The number of acres in actual cultivation in 1850 was about 113,000,000 ; and in 1856, by estimate, 135,000,000.

Coal and Coal-Fields.—The eastern half of the Continent exhibits five great coal fields, extending from Newfoundland to Arkansas. 1, The first, or most eastern, is that of the British provinces, Newfoundland, Nova Scotia, Cape Breton, and New Brunswick. This seems to have been originally one wide coal-field, subsequently broken up into patches by upheaval and denudation, and by the submergence which formed the Gulf of St. Lawrence: the area of the coal measures of the provinces is probably about 9000 square miles, though only one-tenth of this surface appears to be underlaid by productive coal seams. 2, The second, or great Appalachian coal-field, extends from north-eastern Pennsylvania to near Tuscaloosa, in the interior of Alabama. It is about 875 miles long, and 180 broad, where widest in Pennsylvania and Ohio; and, by a careful estimate, contains about 70,000 square miles. The narrow basins of anthracite in eastern Pennsylvania, containing less than 300 square miles of coal, are outlying troughs from this great coal-field. 3, A third, smaller coal-field, occupies the centre of the state of Michigan, equidistant from Lake Huron and Michigan; it covers an area of about 15,000 square miles, but it is very poor in coal. 4, A fourth great coal-field is that situated between the Ohio and Mississippi anticlinals, in the States of Kentucky, Indiana, and Illinois. It has the form of a wide elliptical basin. It is about 370 miles long, and 200 miles wide, and contains, by estimation, 50,000 square miles of coal measures. 5, The fifth, and most western, is the large and very long coal-field filling the centre of the great basin of carboniferous rocks which spreads from the Mississippi and Ozark anticlinals, westward to the limit of the palæozoic region, where the cretaceous strata begin. The coal-field itself has its northern limit on the Iowa River, and its southern near the Red River, on the western border of Arkansas. It is in length 650 miles, and in greatest breadth 200 miles. The total area of this great irregular basin is probably not less than 57,000 square miles. Three or more small detached tracts of coal strata, encompassed by the cretaceous deposits, stretch at intervals south-westward from the southern limit of the longer field through Texas. They are probably extensions of the great field laid bare by denudation. Other localities of coal-bearing strata occur in the high table-lands on both sides of the Rocky Mountains, and also on the Wahsatch chain of Utah, but it is doubtful whether any of them belong to the true carboniferous series. The

aggregate space underlaid by these vast fields of coal amounts to at least 200,000 square miles, or to more than twenty times the area which includes all the known coal deposits of Europe, or, indeed, of the whole eastern continent.

The coal mines of the anthracite fields of Pennsylvania yielded in 1855, 6,552,301 tons ; and in 1856, just closed, about 7,000,000 tons. The total coal product of all the coal mines of the United States, in anthracite and bitumenous coal, may be estimated, for 1856, at about 12,000,000 of tons. The yield of the British mines is about 65,000,000.

Iron.—Approximate calculations indicate that the product in crude iron of the smelting furnaces of the United States was, during 1856, about 1,000,000 of tons.

Commerce.—The Imports for the year ending June 30, 1856, were,—

Specie and Bullion,	. . . . .	\$4,207,632
Free, exclusive of Specie,	. . . . .	52,748,074
Dutiable,	. . . . .	257,684,236
TOTAL,	. . . . .	\$314,639,942

The Exports of domestic produce were,—

Specie and Bullion,	. . . . .	\$44,148,279
Merehandise,	. . . . .	266,438,051
Total,	. . . . .	\$310,586,330
TOTAL EXPORTS,	. . . . .	\$326,964,908

The Exports of Cotton were,	. . . . .	\$128,382,351
" " Tobacco	"	12,221,843
" " Rice	"	2,390,233
" " Hemp	"	28,598

Mint.—From June 30, 1855, to June 30, 1856, there were coined 1,582,146 double eagles, 107,490 eagles, 365,671 half-eagles, 57,100 three-dollar pieces, 377,334 quarter-eagles, 792,110 gold dollars. The value of the gold coined in fine bars was \$21,956,327.16 ; in unparted bars, \$3,746,136.52. The total gold coinage in value for this period was \$62,155,413.68 ; the total silver coinage, \$5,355,061.04 ; the total copper coinage \$17,455.84. The whole number of pieces coined in this period was 26,088,731. Their value was \$67,527,930.56. The deposits of gold at the mint and branches during this period were \$60,085,906.90, of which \$59,608,609.50 were from California. The entire deposit of domestic gold at the Mint and branches to the close of 1854 was \$273,609,355, of which \$264,250,018 were from California.

Immigration to the United States.—During the thirty years ending with the autumn of 1849, nearly 2,100,000 persons of foreign birth arrived in the United States ; and in the subsequent six and a quarter years, ending 1st January 1856, a very nearly equal number, nearly 2,118,404 arrived ; in these thirty-six and a quarter years the total number of immigrants being 4,212,624. The largest fraction, 1,747,930, were born in Ireland ; 1,206,087 were born in Germany ; and next in numerical order were those from England, and then those from France. Nearly every civilized country of the globe has been contributing to swell the population. In the years 1854 and 1855, there came 16,526, all of whom landed in California.

The following Tables give the aggregate population of the several States in 1790, 1820, and 1850 ; and, in connexion with this, the number of inhabitants to a square mile in 1850 :—

SLAVE STATES.						FREE STATES.					
	Population in 1790.	Population in 1820.	Population in 1850.	Density in 1850.	Increase per cent. from 1840 to 1850.		Population in 1790.	Population in 1820.	Population in 1850.	Density in 1850.	
Alabama, .....	.....	127,901	771,623	15.21	35.22	California, .....	.....	.....	92,597	.59	
Arkansas, .....	.....	14,273	209,897	4.02	136.96	Connecticut,	238,141	275,202	370,792	79.33	
Delaware,	59,096	72,749	91,532	43.18	.....	Illinois, .....	.....	55,211	851,470	15.37	
District of Columbia, .....	.....	.....	.....	.....	.....	Indiana, .....	.....	147,178	988,416	29.24	
Florida, .....	.....	.....	87,445	1.48	52.85	Iowa, .....	.....	.....	192,214	3.78	
Georgia,	82,548	340,987	906,185	15.62	35.85	Maine,	96,540	298,335	583,163	18.36	
Kentucky,	73,077	564,317	982,405	26.07	15.75	Massachusetts,	378,717	523,287	994,514	127.50	
Louisiana,	319,728	153,407	517,762	12.55	45.32	Michigan, .....	.....	8,896	397,654	7.07	
Maryland, .....	.....	407,350	583,034	52.41	0.07	New Hampshire, ..	141,899	244,161	317,976	34.26	
Mississippi, .....	.....	75,448	606,326	12.86	58.74	New York,	340,120	1,372,812	3,097,394	65.90	
Missouri, .....	.....	66,586	682,044	10.12	50.01	New Jersey,	184,139	277,575	489,555	58.84	
North Carolina,	393,751	638,829	869,039	17.14	17.38	Ohio, .....	.....	581,434	1,980,329	49.55	
South Carolina,	249,073	502,741	668,507	22.75	17.71	Pennsylvania,	434,373	1,049,458	2,311,786	50.26	
Tennessee,	35,791	422,813	1,002,717	21.99	30.08	Rhode Island,	69,110	83,059	147,545	112.97	
Texas, .....	.....	.....	212,592	0.89	New State.	Vermont,	85,416	235,764	314,120	30.76	
Virginia,	748,308	1,065,379	1,421,661	23.17	5.21	Wisconsin, .....	.....	.....	305,391	5.66	
TOTAL,	1,961,372	4,452,780	9,612,769	11.28	.....	TOTAL,	1,968,455	5,152,372	13,434,922	21.93	

From these Tables it will be seen that, in 1790, the population in the present non-slaveholding States was 1,968,455 ; and in the present slaveholding States, 1,961,372 ; showing a difference of 7083 in favour of the non-slaveholding States. This difference, at first so slight, only 7000, we find constantly increasing, until in 1820 (thirty years from that time) it becomes 699,592 ; the population of the slaveholding States being at that time 4,452,780, and that of the non-slaveholding States, 5,152,372. In thirty years more (1850), the population of the fifteen Slave States is 9,612,769, and of the sixteen Free States, 13,434,922 ; a difference of 3,822,153 in favour of the Free States. Thus, from having a majority of less than four-tenths of one per cent. in 1790, the Free States had in 1850 a majority of more than thirty-nine per cent. And this, notwithstanding 87,000 inhabitants were added to the Slave States by the annexation of Louisiana and Florida, and a large population by the annexation of Texas.

The average number of inhabitants to a square mile, in the Slave States, is 11.28, and in the Free States, 21.93 ; almost exactly two to one.

MISCELLANEOUS STATISTICS.

SHOWING THE CONDITION OF PUBLIC SCHOOLS IN CERTAIN CITIES IN 1851.

CITIES.	Population.	Schools.	Teachers.	Pupils.	Cost of Tuition.
Boston,.....	138,788	203	353	21,678	\$237,000
New York,	517,000	207	332	40,055	274,794
Philadelphia,	409,000	270	781	48,056	341,888
Baltimore,	169,012	36	138	8,011	32,423
Cincinnati,	116,000	17	124	6,006	81,623
St. Louis,.....	81,000	73	168	6,642	.....

THE LAKE CITIES FROM THE LATEST ENUMERATIONS.

CITIES.	1840.	1850.	1855.
Buffalo,.....	18,282	42,200	75,000
Cleveland,.....	6,671	17,035	55,000
Sandusky,.....	1,434	6,008	10,000
Toledo,.....	1,222	1,819	15,000
Detroit,.....	9,102	21,891	40,000
Chicago,	4,170	20,000	80,000
Milwaukee,	1,710	21,401	40,000

Railways in the United States.—The Report of the Secretary of the Treasury to Congress, contains some interesting statistics relating to Railways in the United States.

It appears that last year the Secretary addressed a circular to the Railway Companies, asking replies to a series of questions which he submitted. Ninety-three companies neglected to make returns, four of which were from Massachusetts.

The companies making returns, represented—

Miles completed,	19,936 $\frac{1}{4}$
„ unfinished,	16,069
Finished and unfinished,	36,005 $\frac{1}{4}$

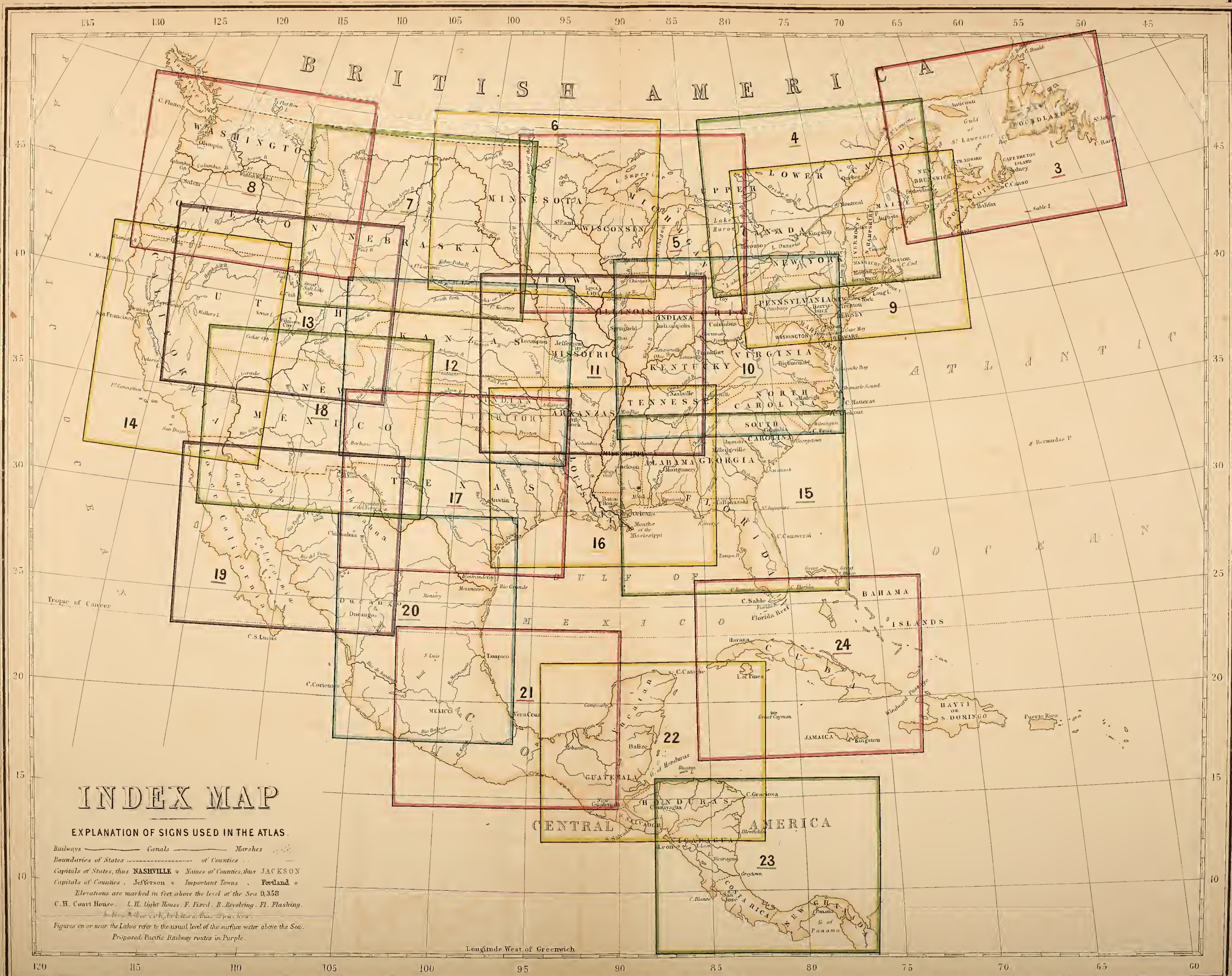
The statistics of this immense system of intercommunication, as reported by the Secretary, are,—

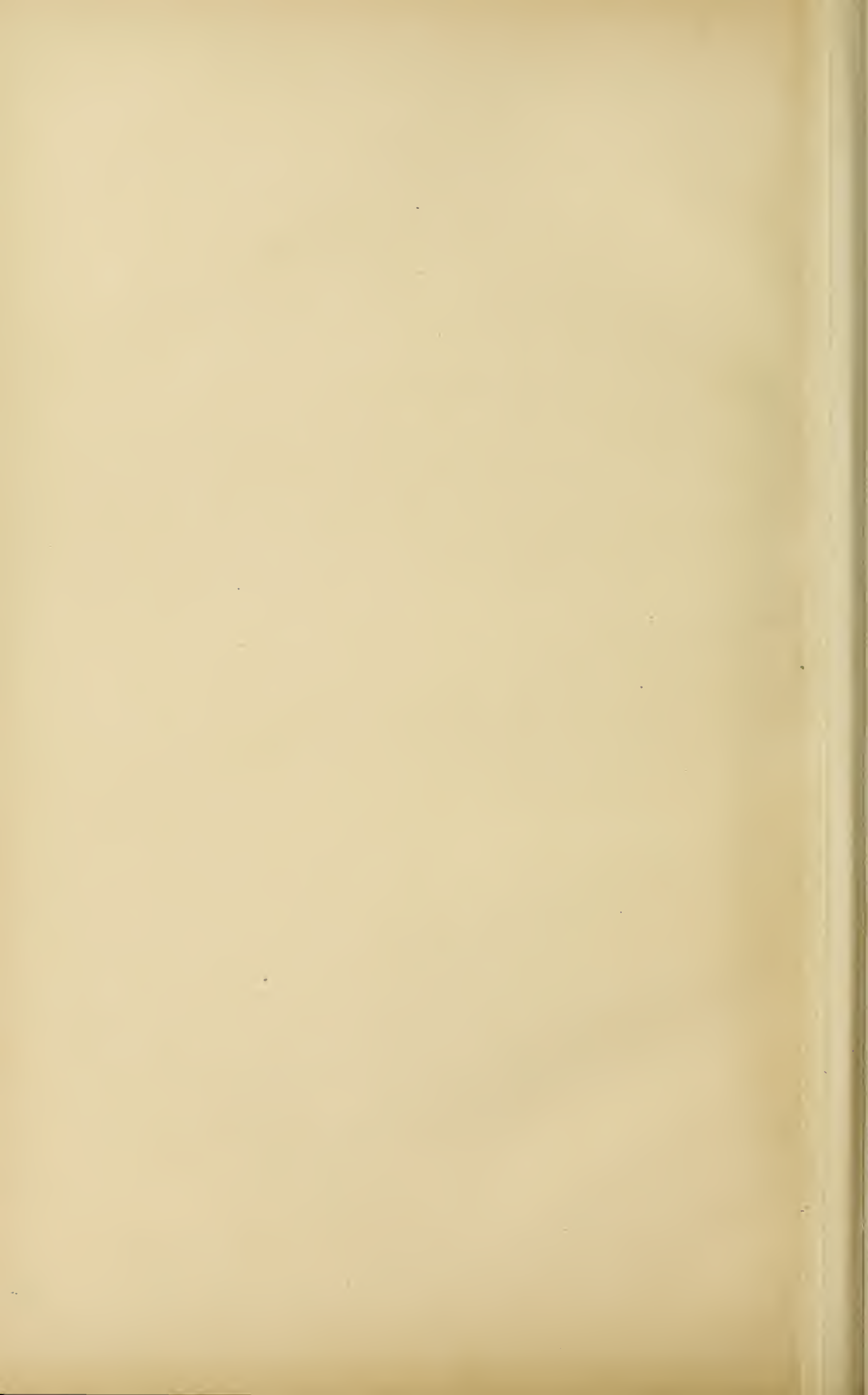
Amount of capital stock paid in,	\$433,286,946
„ „ bonds issued,	303,137,973
„ „ floating debt,	40,126,958
Total liability,	\$776,551,877
Estimated cost when completed,	\$1,090,381,114
Receipts,	91,132,693
Working expenses,	48,712,381
Net Income,	41,929,404

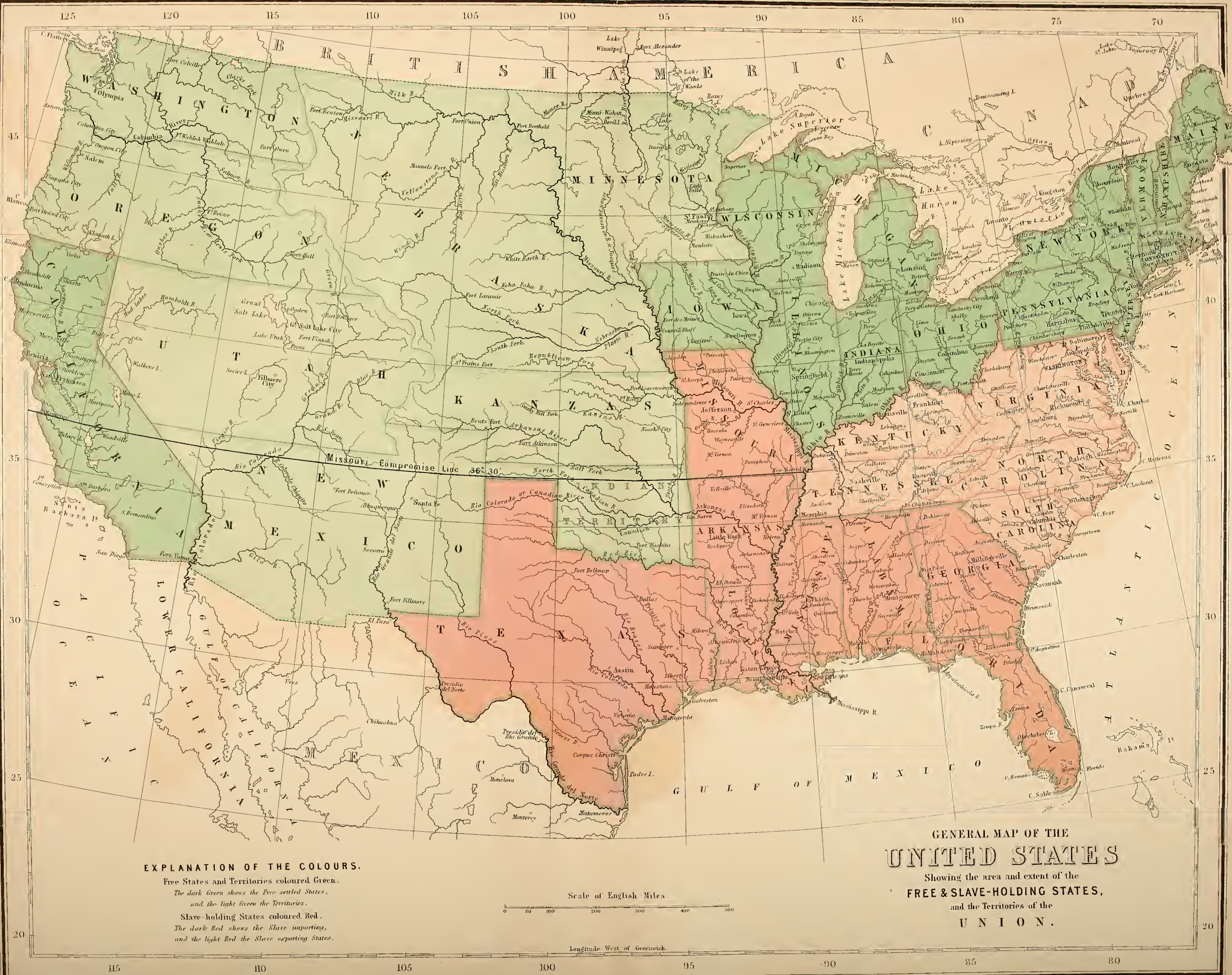
TRAFFIC DURING PAST YEAR.

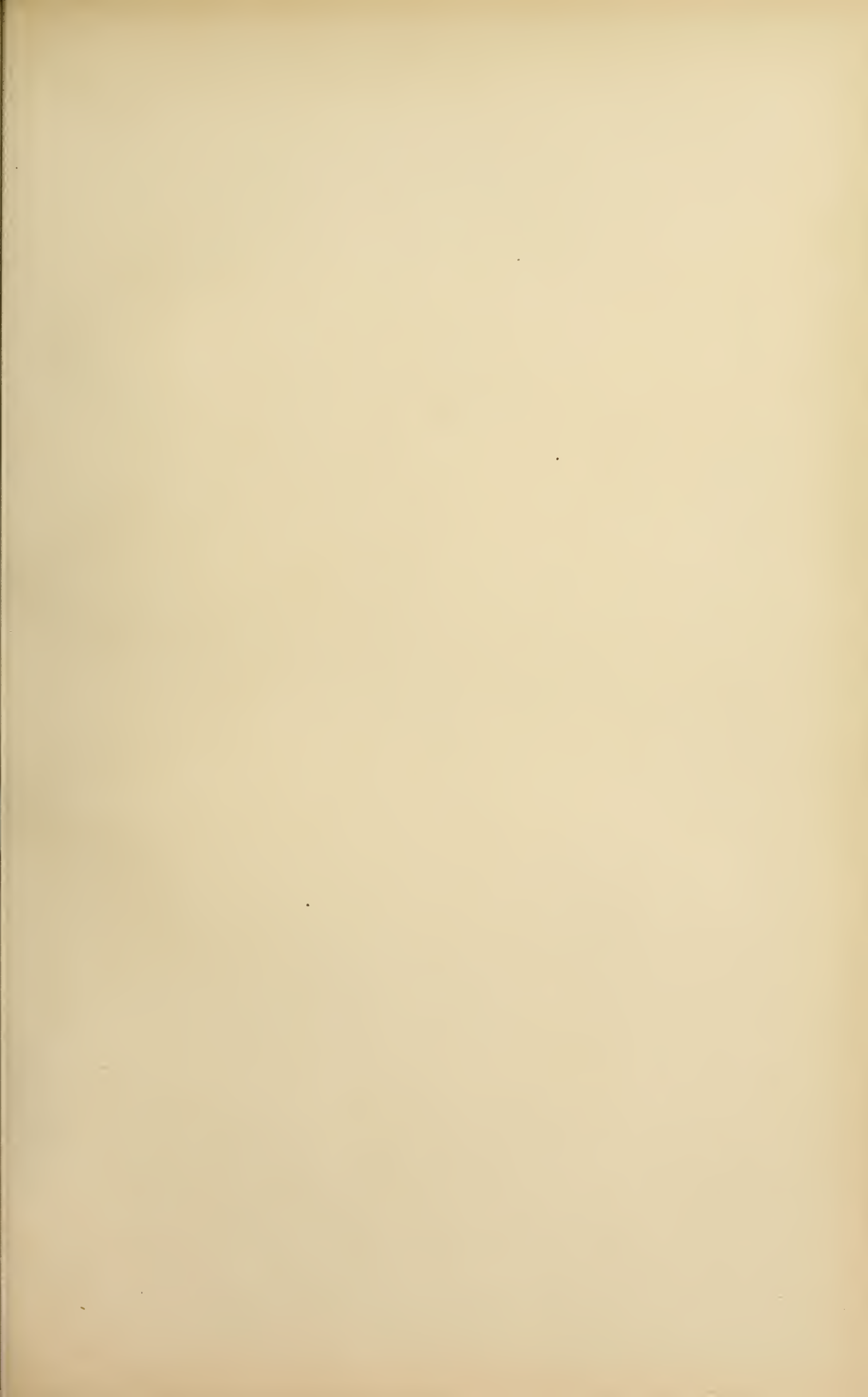
Number of passengers,	61,110,613
„ „ tons of freight,	121,990,998
The average haul of passengers was	18 miles.
„ „ „ freight was	23 „

Of the \$736,424,919 invested in stock and bonds, only \$81,871,000 are reported as held by foreigners.







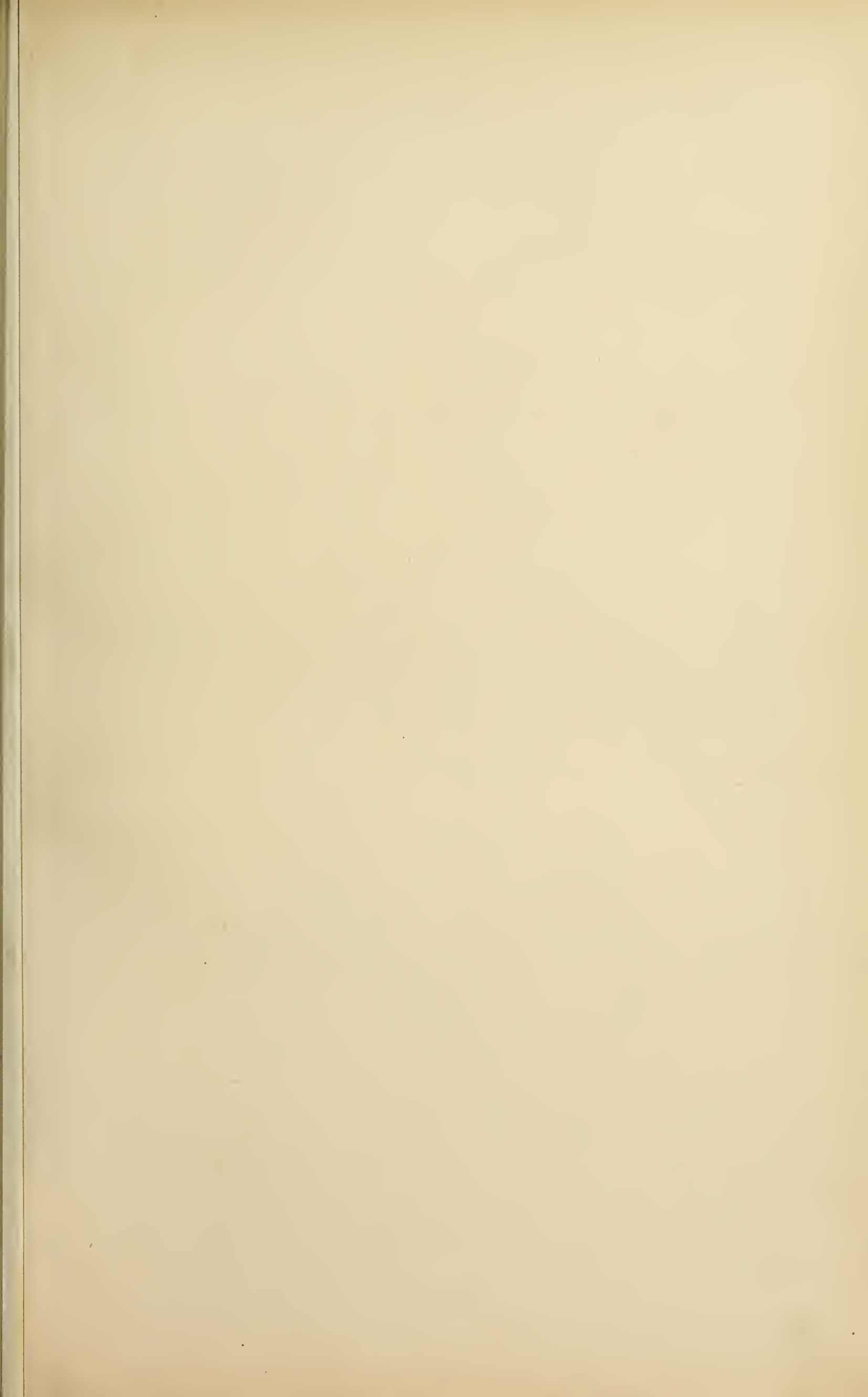


NEWFOUNDLAND,
NEW BRUNSWICK,
NOVA SCOTIA,
CAPE BRETON & PRINCE EDWARD Is.

BY PROF. H. L. FIDGERS & A. WEST JOHNSTON, F.R.S.E.

Scale 1:500,000 of nature, 5 1/2 miles to 1 inch.
Scale of English Miles
0 10 20 30 40 50 60 70 80 90 100





UPPER OR WESTERN
AND
LOWER OR EASTERN
CANADA.

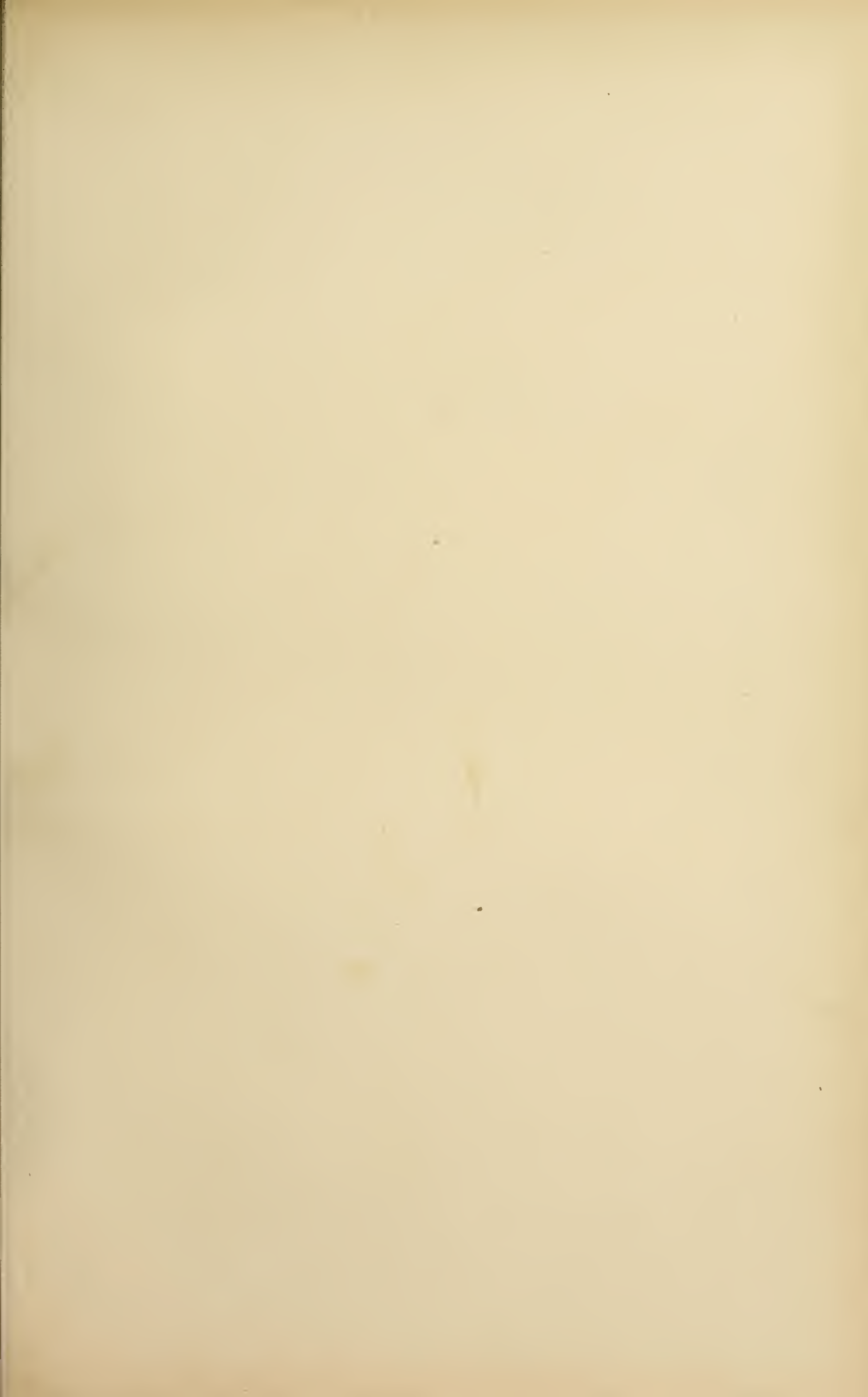
BY PROF. H.D. ROGERS & ALEX. JOHNSTON, F.R.S.E.

Scale 3,150,000 of nature, 5 1/3 miles to 1 inch.

Scale of English Miles

0 10 20 30 40 50 60 70 80 90 100







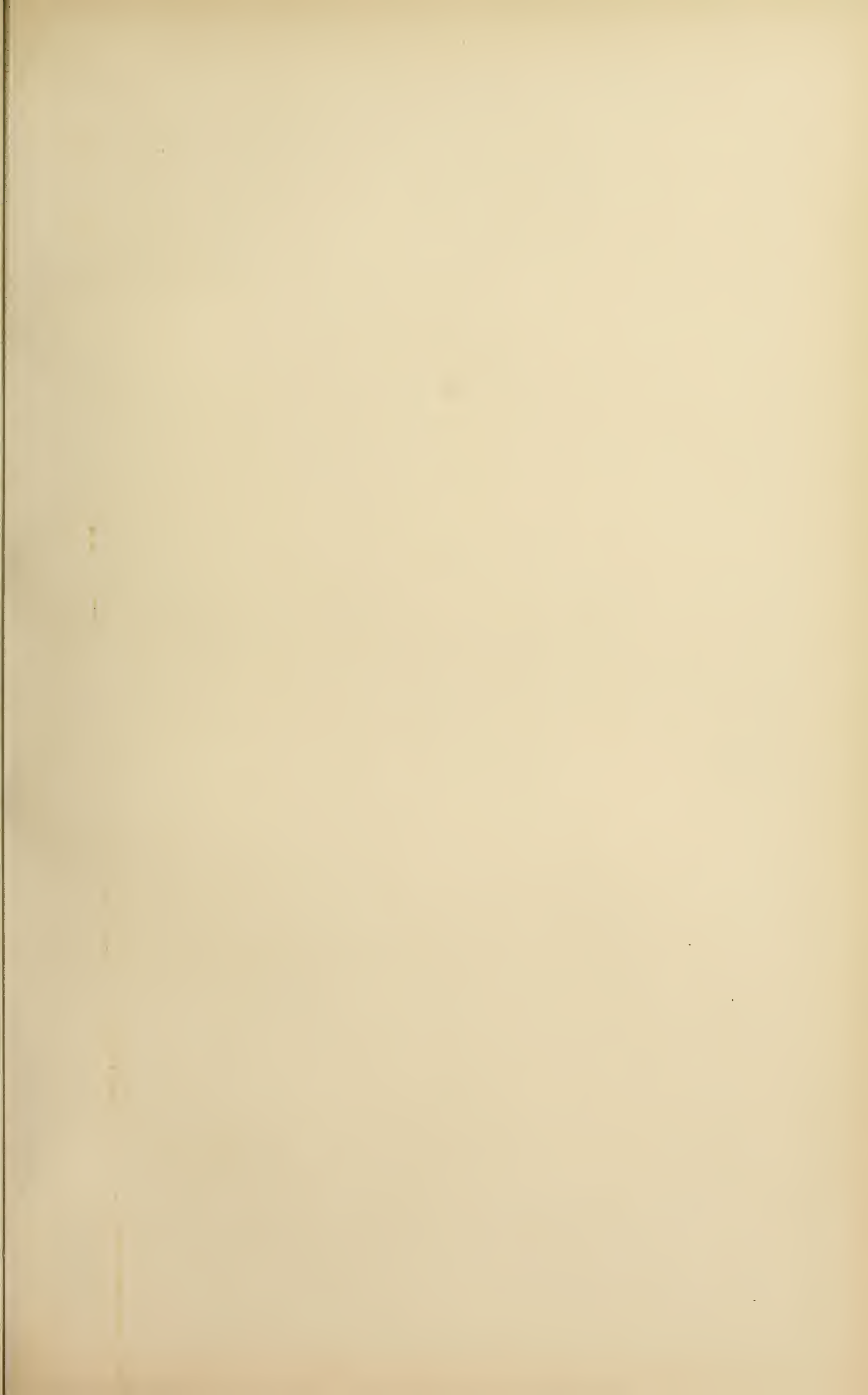




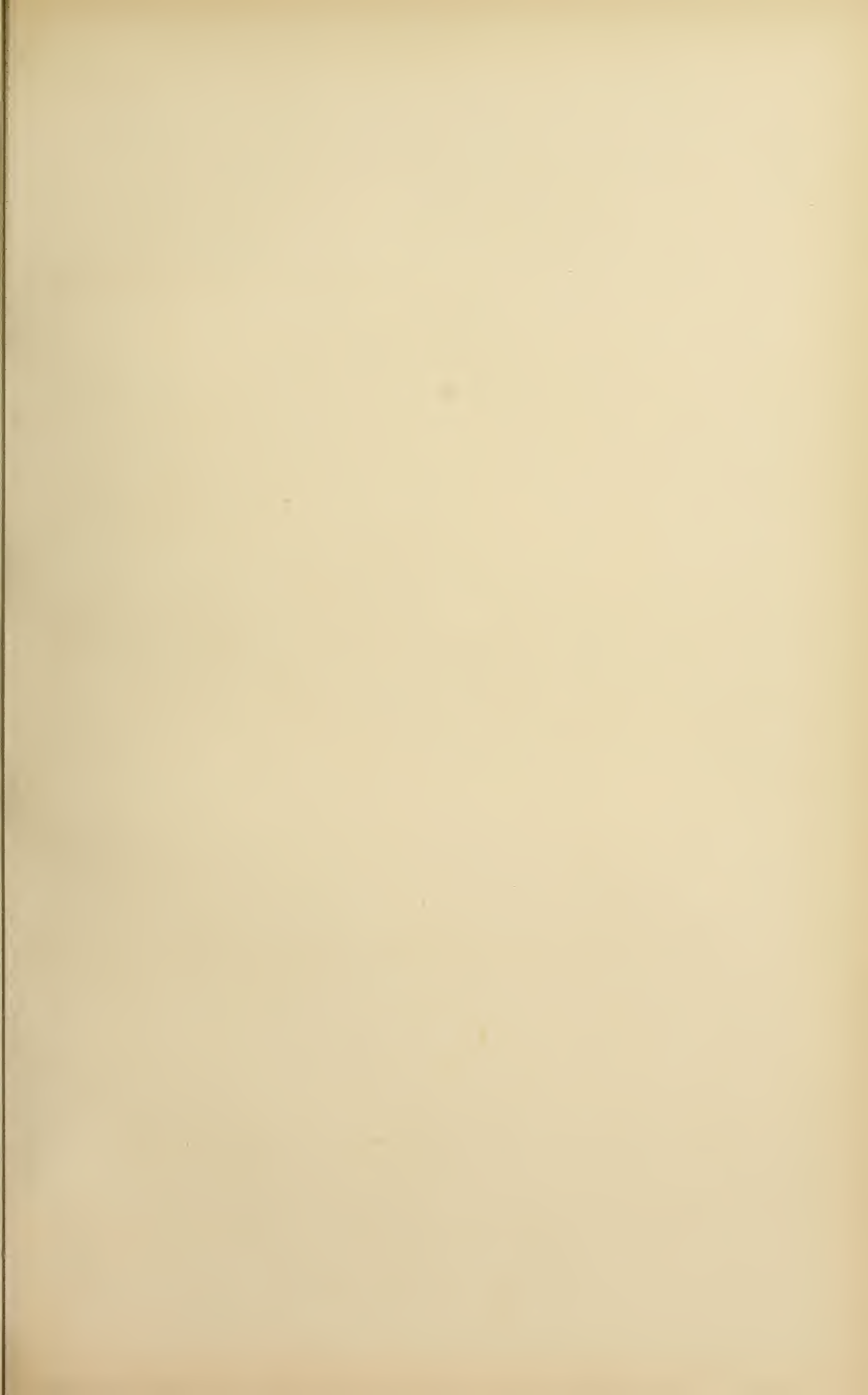












STATES OF
MAINE, N. HAMPSHIRE,
VERMONT,
MASSACHUSETTS,
RHODE ISLAND, CONNECTICUT,
NEW YORK,
PENNSYLVANIA,
AND
NEW JERSEY.

BY PROF. H. D. ROGERS & A. R. JOHNSTON F.R.S.E.

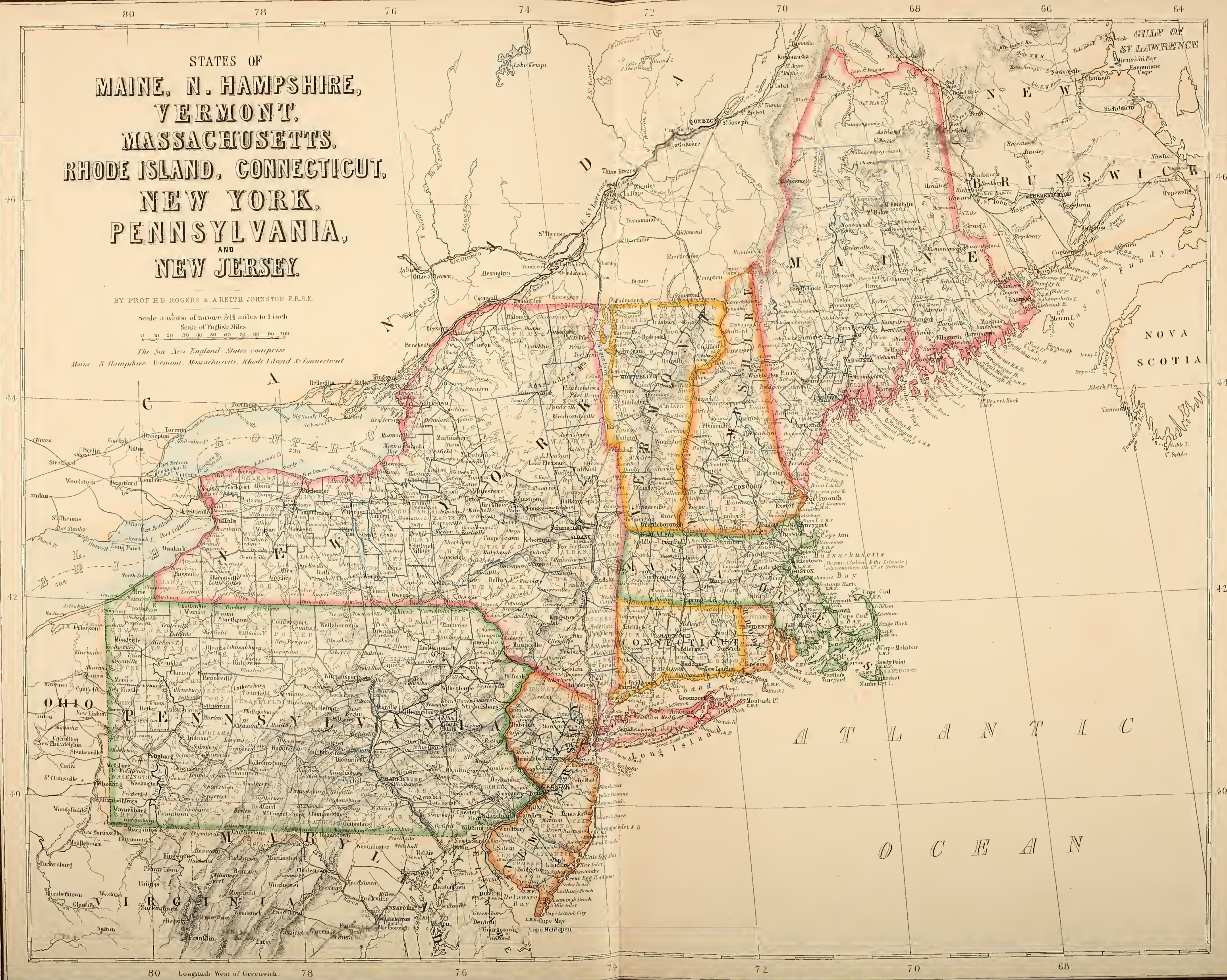
Scale 1:600,000 of nature, 5 1/2 miles to 1 inch.

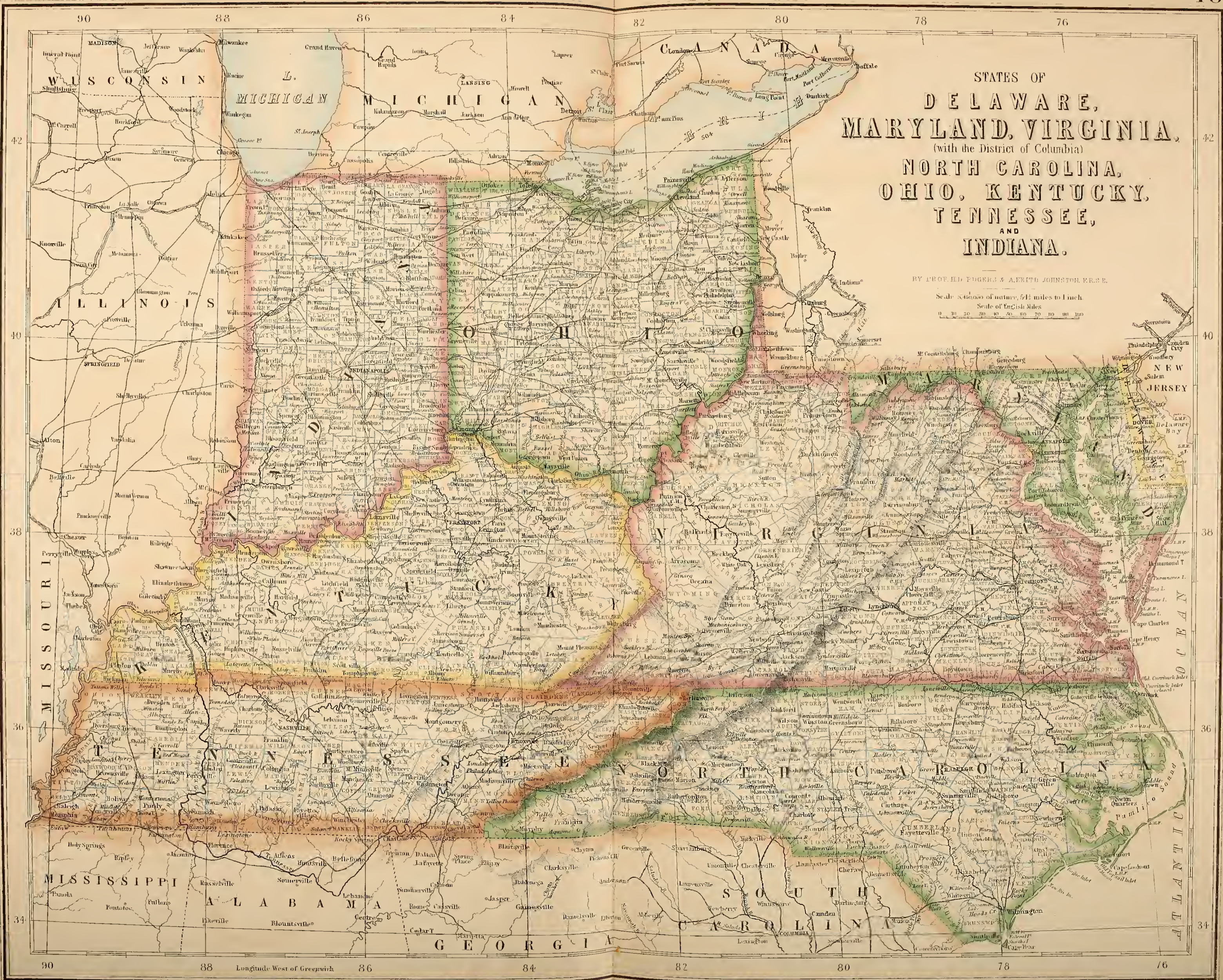
Scale of English Miles

0 10 20 30 40 50 60 70 80 90 100

The Six New England States comprise

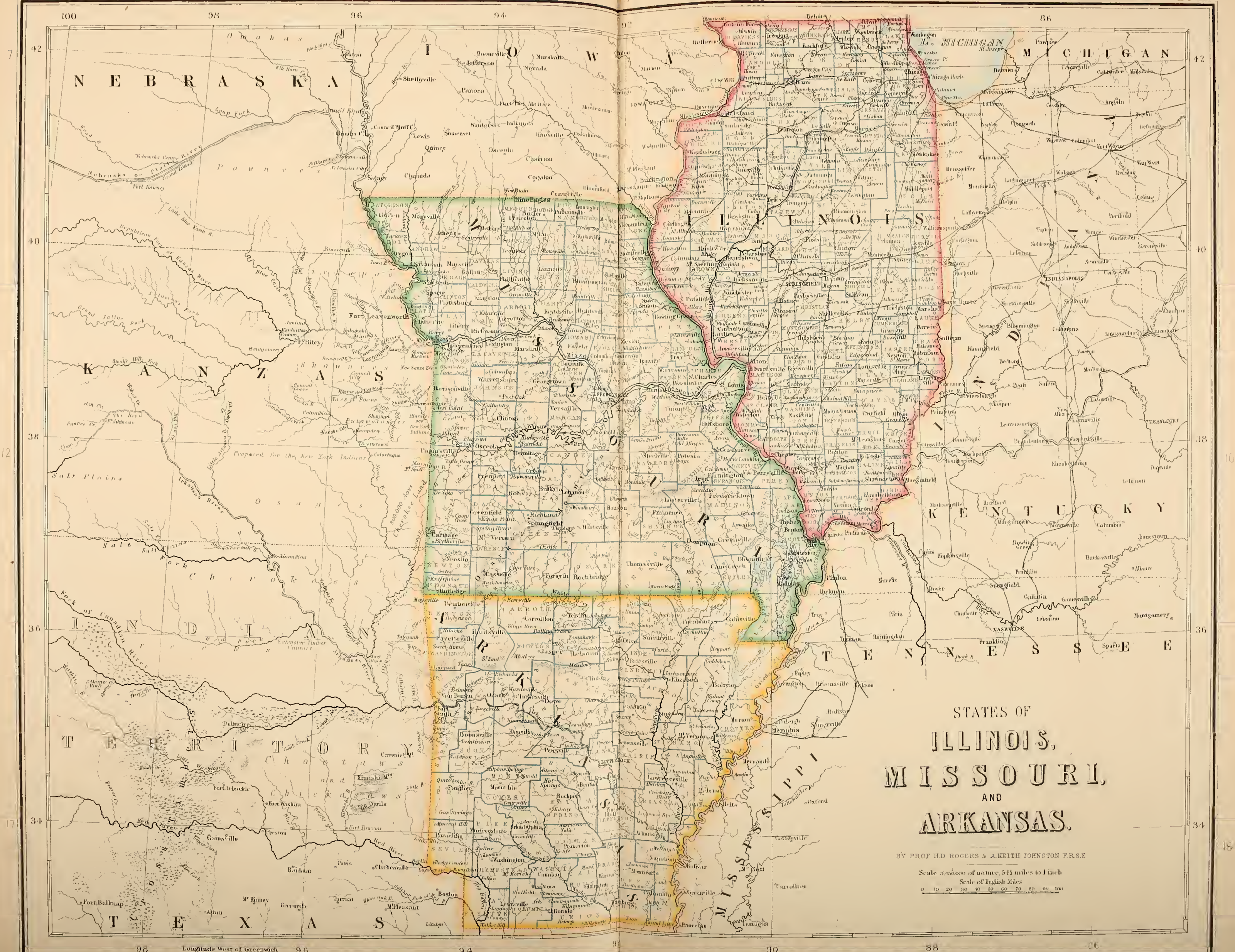
Maine, N. Hampshire, Vermont, Massachusetts, Rhode Island & Connecticut





STATES OF
DELAWARE,
MARYLAND, VIRGINIA,
(with the District of Columbia)
NORTH CAROLINA,
OHIO, KENTUCKY,
TENNESSEE,
AND
INDIANA.

BY PROF. H. D. FIDGERS & A. K. JOHNSTON, F.R.S.E.
Scale 1:500,000 of nature, 5 1/2 miles to 1 inch
Scale of English Miles
0 10 20 30 40 50 60 70 80 90 100



STATES OF
ILLINOIS,
MISSOURI,
AND
ARKANSAS.

BY PROF HD ROGERS & A KEITH JOHNSTON F.R.S.E.

Scale 1:450,000 of nature, 5 1/4 miles to 1 inch

Scale of English Miles

0 10 20 30 40 50 60 70 80 90 100







83

86

84

80

78

76



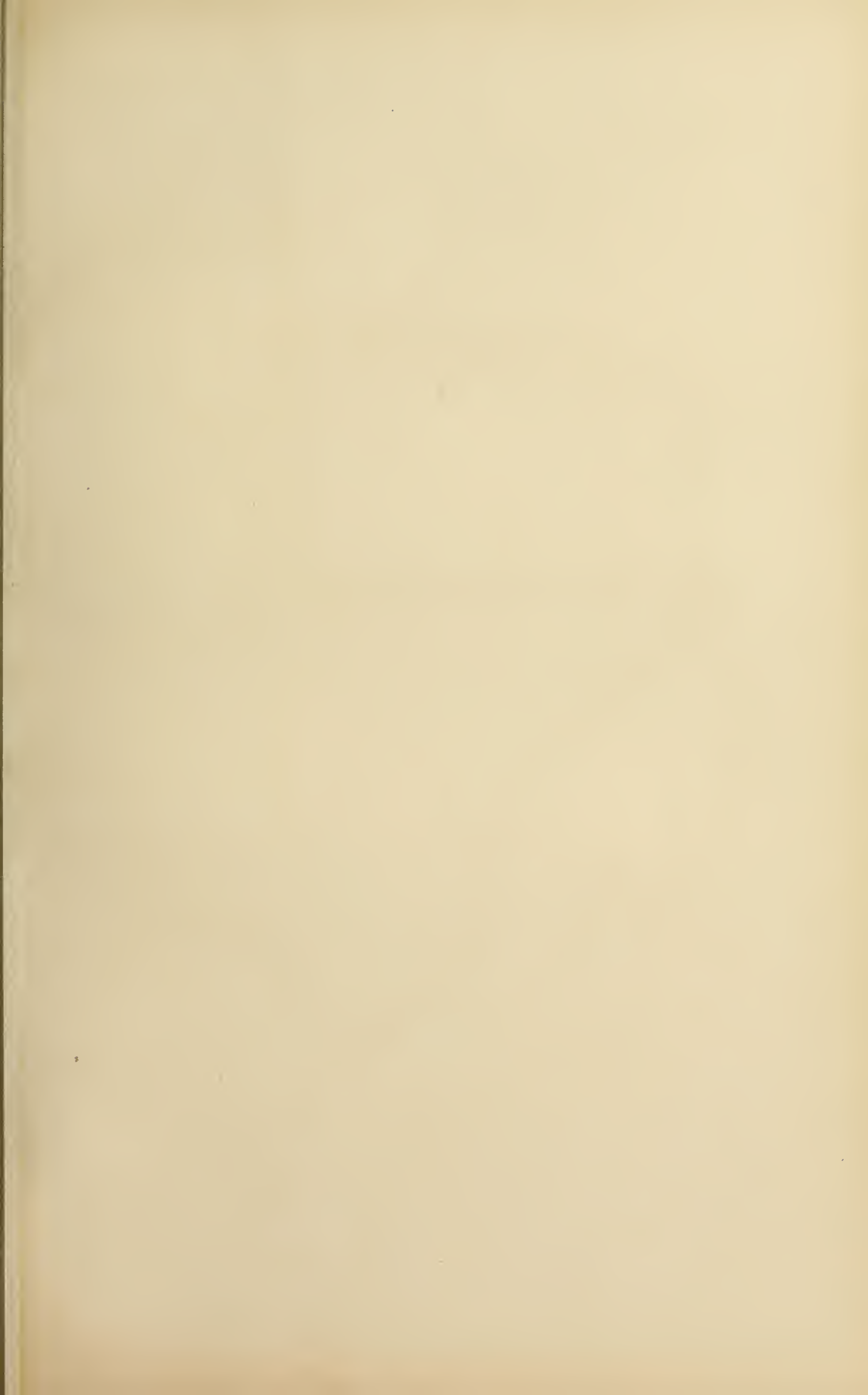
STATES OF
SOUTH CAROLINA,
GEORGIA, ALABAMA,
AND
FLORIDA.

BY PROF. H.D. ROGERS & A. KEITH JOHNSTON, F.R.S.E.

Scale 1:400,000 of nature, 1 1/2 miles to 1 inch.
Scale of English Miles
0 10 20 30 40 50 60 70 80 90 100

NOTE
For Florida Reefs, See Map No. 74





STATE OF TEXAS.

BY PROF. H.D. ROGERS & A. KEITH JOHNSTON, F.R.S.E.

Scale 1:450,000 of nature, 5 1/2 miles to 1 inch.
Scale of English Miles
0 10 20 30 40 50 60 70 80 90 100





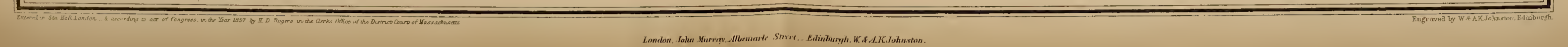




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ATLAS OF UNITED STATES AC.

















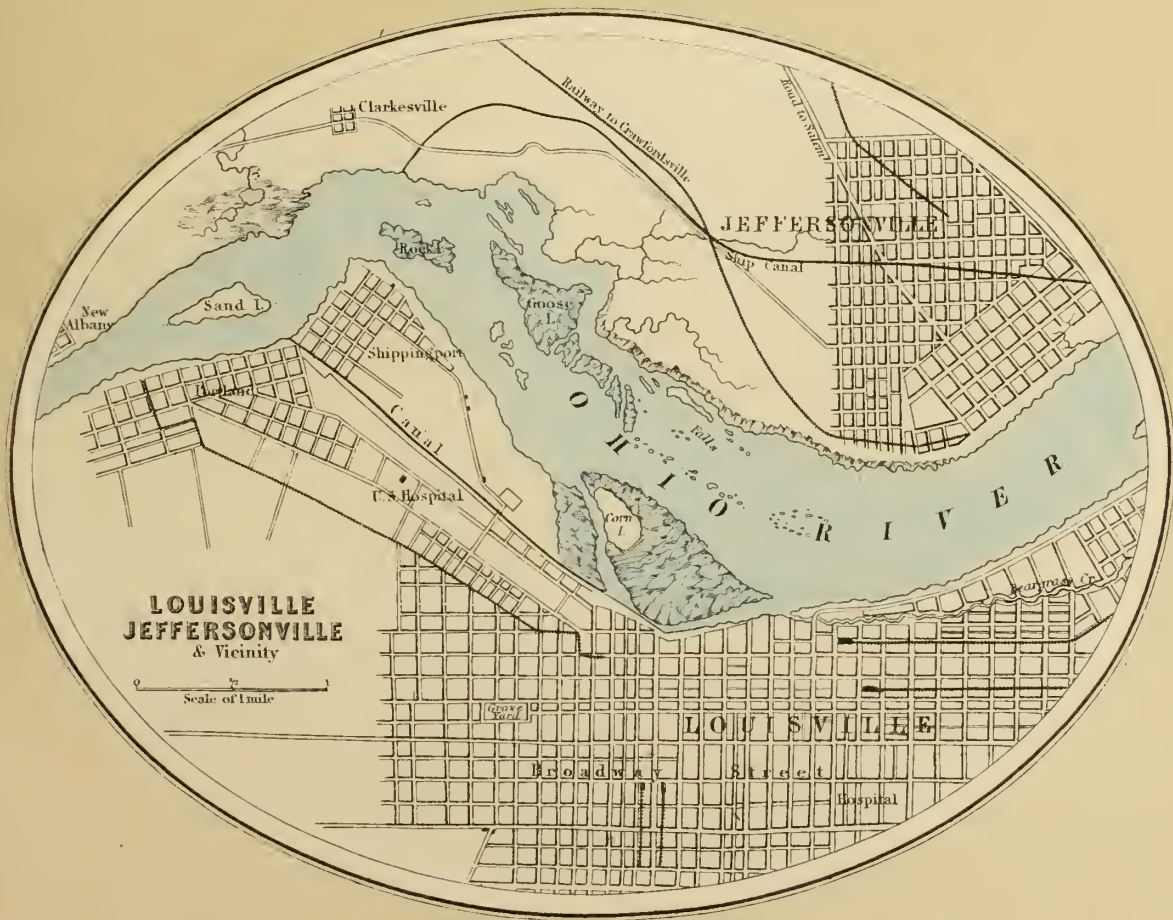




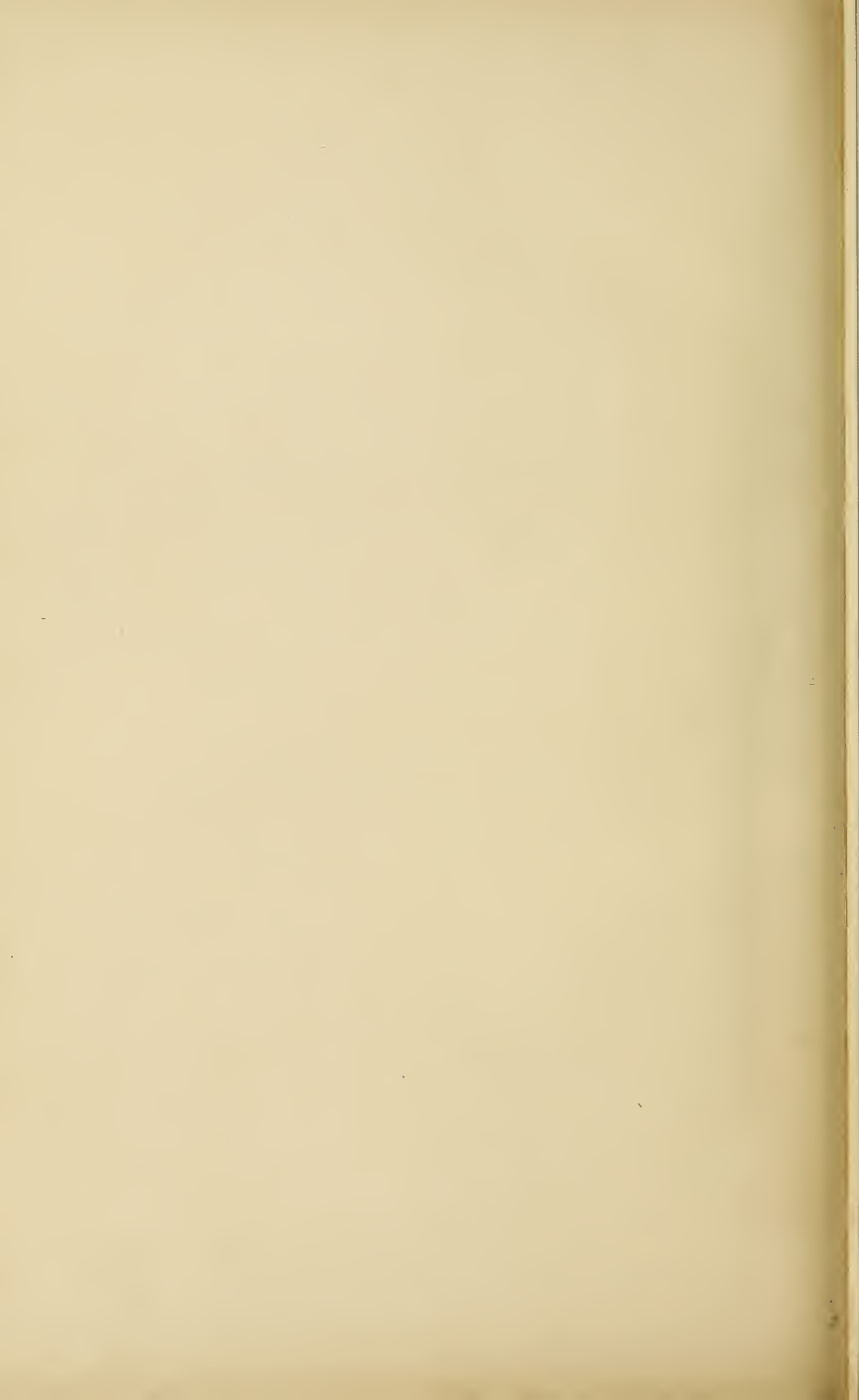






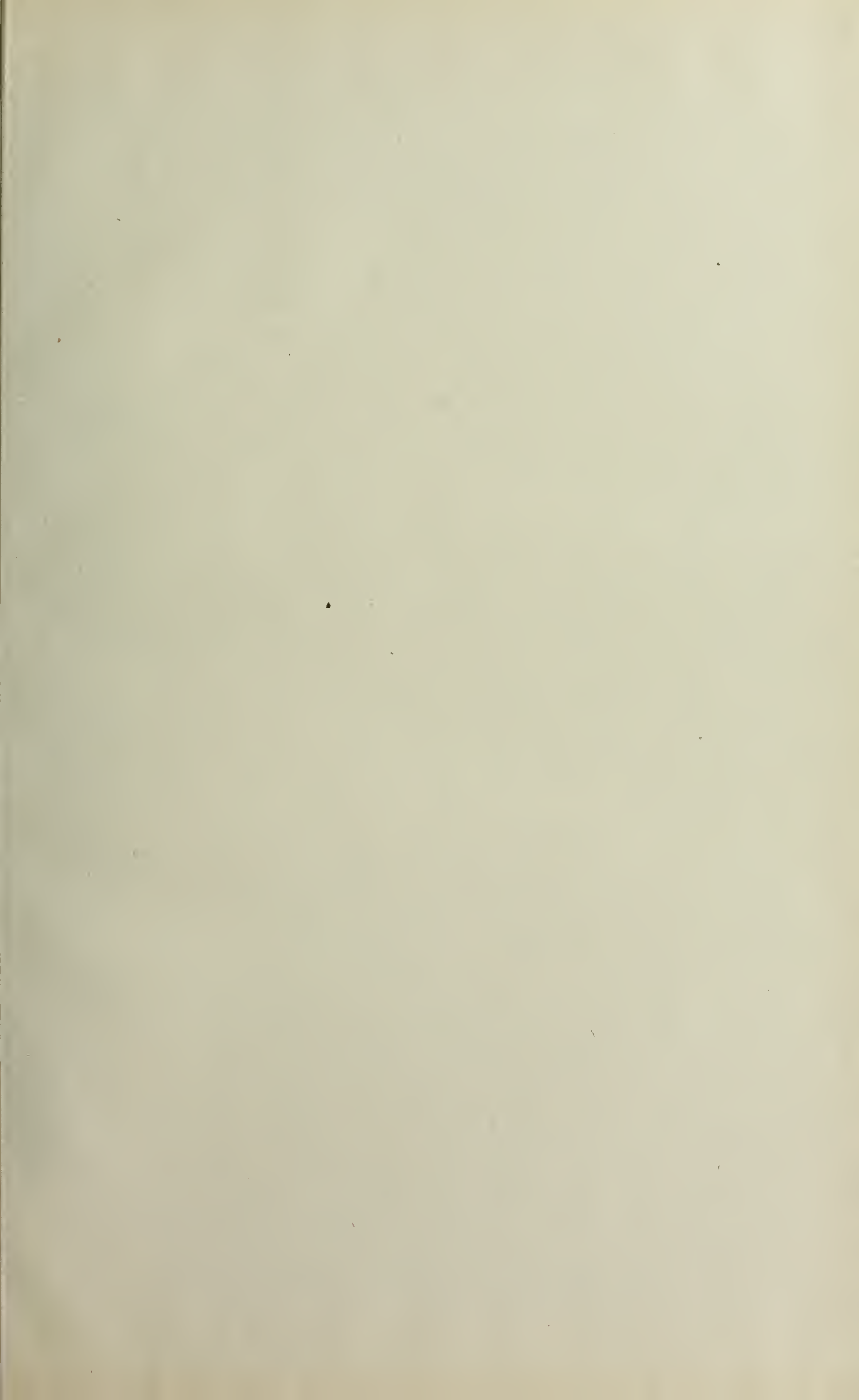


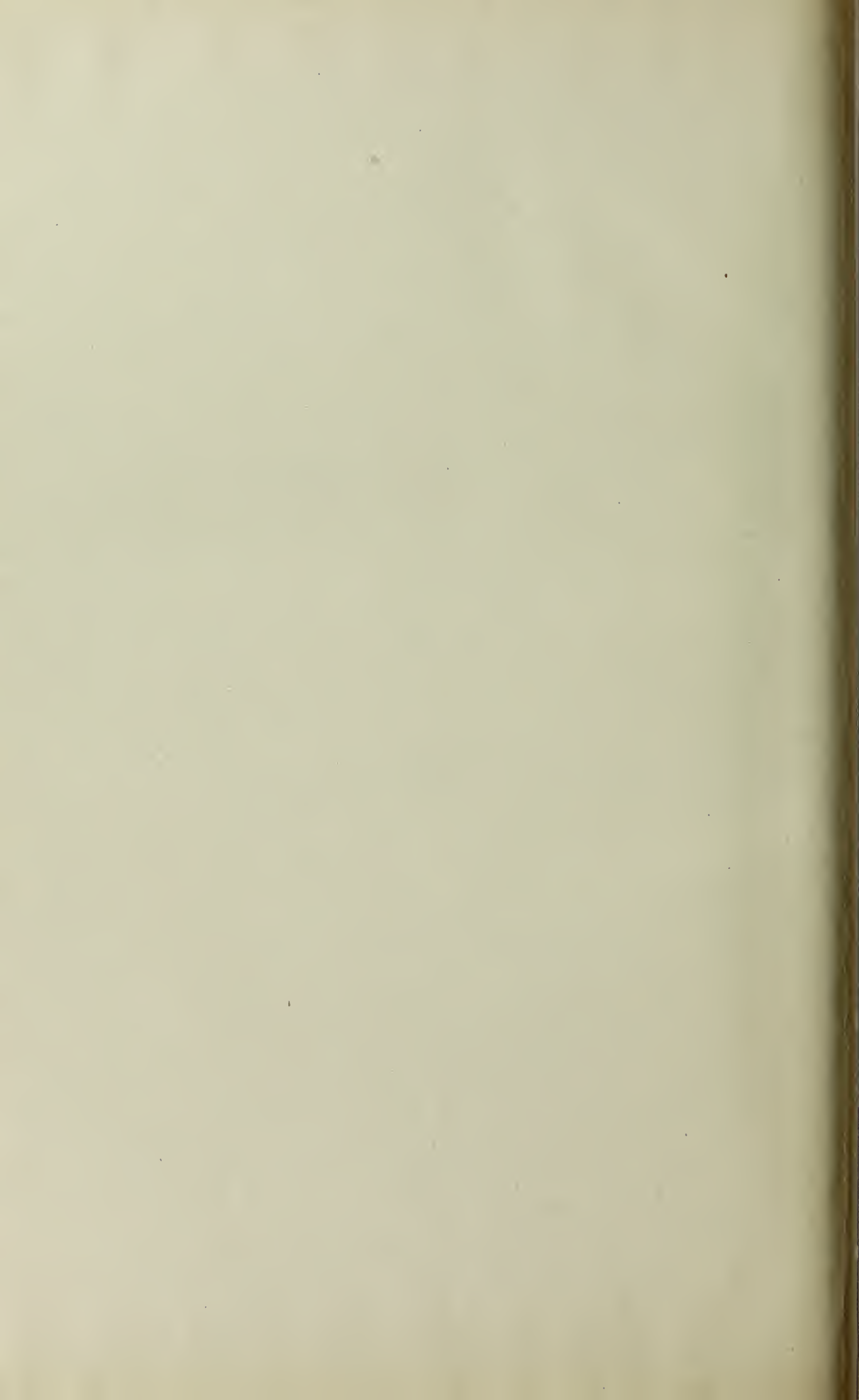












B. C. Lindsey
JUN 10 1910

